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ABSTRACT

A summary is provided of the proceedings of the 19th Lake Okoboji Educational Media Leadership Conference. The first section of the report presents a transcript of the conference's keynote address, which deals with projections, probes and problems of instructional technology in the future. Brief reviews of each of the general sessions are next given, followed by reports of the six study committees into which the participants were grouped throughout the conference. These treat, respectively, the following topics: 1) the future of society in the year 2002 A.D.; 2) education and curriculum trends; 3) strategies for improving instructional technology; 4) the management and funding of media programs; 5) the instructional technologist in the year 2000; and 6) change processes viewed as strategies for moving into the future. An appendix presents a compilation of concerns voiced by delegates. (LB)

The Future of Instructional Technology

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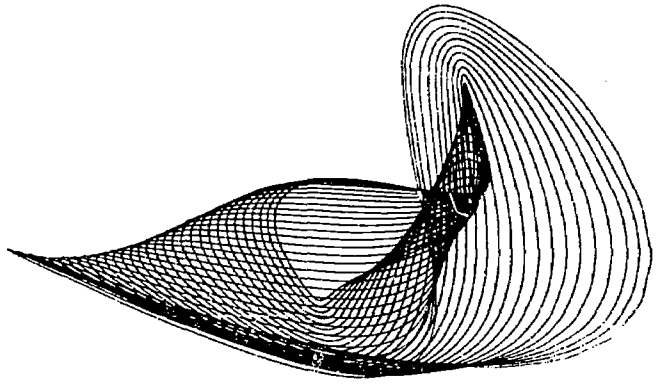

Summary Report
Lake Okoboji
Educational Media
Leadership Conference
19th Annual - 1973

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SUMMARY REPORT

of the

NINETEENTH LAKE OKOBOJI EDUCATIONAL MEDIA LEADERSHIP CONFERENCE

Iowa Lakeside Laboratory
Lake Okoboji, Milford, Iowa

August 12-17, 1973

Co-sponsored by
The University of Iowa
Division of Extension and University Services
Audiovisual Center

and the

Association for Educational Communications and Technology
Washington, D. C. 20036

1973 Theme: "THE FUTURE OF INSTRUCTIONAL TECHNOLOGY"
Group Sub-Topics:

- The Future of Society - 2002 A. D.
- The Future Education and Curriculum Trends
- Future Strategies for Improving Instructional Technology
- The Future of Management and Funding of Media Programs
- Instructional Technologist: A Concept for A. D. 2000
- Change Processes: An Exploration Into Strategies Moving Into the Future
- The Future of Instructional Technology: A Mediated Package

Co-Editors: Lida M. Cochran and Lee W. Cochran
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FOREWORD

The Nineteenth Lake Okoboji Educational Media Leadership Conference adjourned on August 17, 1973, with the delegates having a feeling of accomplishment, but also frustration, in studying "The Future of Instructional Technology."

This Summary Report does not try to predict the future, say in the year 2000 A. D., but is the thinking of seventy delegates, in their estimation of what we may expect in future years relating to Instructional Technology. The young delegates may look back on the Summary Report of 1973, to see if this conference was a landmark in thinking, or a short-sighted look at an unrealistic future. The older delegates may not live to see this future.

"Projections, Probes and Problems of Instructional Technology in the Future" was the topic of keynoter Dr. Donald Ely, Syracuse University, who gave inspiration to the delegates to try to find answers relating to the future. In opening his talk, Ely indicated "A basic premise is that instructional technology does not exist as an entity, it draws life only as it relates to the larger context of which it is a part. The larger context is education and larger yet our society."

For study purposes, the group divided into seven discussion groups, attacking the following problems:

The Future of Society - 2002 A. D.
The Future Education and Curriculum Trends
Future Strategies for Improving Instructional Technology
The Future of Management and Funding of Media Programs
Instructional Technologist: A Concept for A. D. 2000
Change Processes: An Exploration Into Strategies Moving Into the Future
The Future of Instructional Technology: A Mediated Package

It is interesting to note that besides keynoter Ely, four other persons attending the 19th conference had helped set the stage at the first Okoboji in 1955. They were: Charles F. Schuller, Robert E. de Kieffer, John R. Hedges and Lee W. Cochran of the Iowa Committee. Four of this group have served as President of DAVI, now AECT.

In the mind of the author, the "Future of Instructional Technology" is what we in this field make it. It will not be easy to accomplish, but if we are to fulfill our objectives in life, we must work toward specific goals to improve education. It will take designers of media, outstanding producers, with media developed through a systems approach so there will be no guess as to the students' progress. Not only good education will be needed in the future, but re-education to meet the fast turnover of jobs in certain business

and industry. If the public schools and colleges do not meet this need, it has been predicted industry will start their own programs of education.

The future is in the hands of the young graduate students of today. May they accept the heritage of 50 years of DAVI/AECT, and build toward an outstanding future.

Lee W. Cochran
Director Emeritus
Audiovisual Center
The University of Iowa

Chairman: Iowa Committee for Okoboji Conference

PERSONS ATTENDING THE 19TH LAKE OKOBOJI EDUCATIONAL MEDIA LEADERSHIP CONFERENCE

August 12-17, 1973

Iowa Lakeside Laboratory, Lake Okoboji, Milford, Iowa

		REPRESENTING	YEAR(S) ATTENDED
1.	AINSLEY, Lucy Instructional Media Center Birmingham Public Schools, 1525 Covington, Birmingham, MI 48010	Michigan	73
2.	ANDERSON, Joyce Assistant Professor of Education Portland State University, P.O. Box 751, Portland, OR 97207	Oregon	73
3.	BENNETT, S. Barton Jr. 205 Forest Street, Apt. B, Denham Springs, LA 70726	Graduate Student	73
4.	BILLINGS, Rolland Director of Instructional Media Ann Arbor Public Schools, 2555 S. State St., Ann Arbor, MI 48103	Voted back	72, 73
5.	BIZZELL, John Director of Media Services Ferguson-Florissant Schools, 228 Day Drive, Ferguson, MO 63135	Missouri	73
6.	BORK, Les Audiovisual Director South Dakota State University, Brookings, SD 57006	South Dakota	73
7.	BOWINGTON, E. W. Associate Professor of Education Longwood College, Farmville, VA 23901	Virginia	73
8.	BOYCE, Maxine Film Specialist Bureau of AV Instruction, University of Wisconsin, Box 2093, Madison, WI 53706	Graduate Student	73
9.	BOYD, Warren, Jr. Teaching Assistant School of Journalism, The University of Iowa, Iowa City, IA 52242	Graduate Student	73
10.	BYRD, Charles R. Coordinator of Dissemination West Virginia Department of Education, 603 Kanawha Avenue S. Nitro, WV 25143	West Virginia	73
11.	CHISHOLM, Margaret Dean, School of Library & Information Services, University of Maryland, College Park, MD 20742	Resource person	73
12.	CHOW, Clement 116 Huntington Hall, Syracuse University, 150 Marshall Street, Syracuse, NY 13210	Graduate Student	73
13.	CORSO, John Audio-Visual Coordinator Duneland School Corp., 744 S. 2nd Street, Chesterton, IN 46304	Indiana	73
14.	CRAWFORD, Don Assistant Dean, College of Education, Western Illinois University, Macomb, IL 61455	Illinois	73
15.	DANIELS, Wilma Librarian/Media Coordinator Box 580, Issaquah, WA 98027	Planning Committee	71, 72, 73
16.	deKIEFFER, Robert, Director, Bureau of Audiovisual Instruction, University of Colorado, Boulder, CO 80302	AECT	55, 56, 58, 64, 73
17.	ELY, Donald P. Professor of Education Syracuse University, Syracuse, NY 13210	Keynoter	55, 56, 64, 65, 73
18.	EVANS, Arthur Vice President, Oxford Films, Inc. 1136 N. Las Palmas Avenue, Los Angeles, CA 90028	AECT	73
19.	FRALEY, Lawrence E. Instructional Developer West Virginia University, Morgantown, WV 26505	Guest	73
20.	FRY, Warren D. Audiovisual Coordinator 2411 No. 39th Street, Phoenix, AZ 85008	Arizona	73

		REPRESENTING	YEAR(S) ATTENDED
21.	HARTSELL, Horace University of Texas Dental Branch 6516 John Freeman Avenue, Houston, TX 77025	Resource person	56, 57, 58, 59, 63, 64, 73
22.	HENDRICKSON, Charles Director, Audio Visual Services, Mesa College, Grand Junction, CO 81501	Colorado	73
23.	HUBBARD, Richard Professor in Educational Communications, State University College, Oswego, NY 13126	New York	58, 59, 60, 70, 71, 73
24.	HUGHES, Clarke Jr. Media Director St. Thomas More School, 11400 Sherbrook, Baton Rouge, LA 70815	Graduate Student	73
25.	IRVINE, Robert Assistant Director, Instructional Materials, Highline School District 401, 15675 Ambaum Blvd., SW, Seattle, WA 98166	Planning Committee	71, 72, 73
26.	JARECKE, Robert Director, Center for Instructional Materials California State University, 6000 J St., Sacramento, CA 95825	Planning Committee	72, 73
27.	JONES, W. Marshall Director, Instructional Materials Center, School District No. 2, 504 North 29th St., Billings, MT 59101	Montana	73
28.	KING, Kenneth L. College of Education Oklahoma State University, Stillwater, OK 74074	Oklahoma	73
29.	KOENIG, William Director of Media, Secaucus Public Schools, Clarendon School, Secaucus, NJ 07094	New Jersey	73
30.	LAWSON, James R. Project Coordinator, Teleread Department of Education, San Diego, CA 92111	Voted back	72, 73
31.	LEE, Thomas S. Commander, Massachusetts Maritime Academy, Buzzards Bay, MA 02324	Massachusetts	73
32.	LEEAN, Constance Syracuse University 315 S. Beech Street, #1, Syracuse, NY 13210	Graduate Student	73
33.	McBEATH, Ron J. Director, Instructional Resources Center, San Jose State University, San Jose, CA 95192	Resource person	73
34.	McJULIEN, Wesley Director, Continuing Education, Southern University, Route 7, Box 209B, Baton Rouge, LA 70807	Planning Committee	72, 73
35.	McMAHAN, Marie Director, Instructional Resources Center, Kent State University, Kent, OH 44242	AECT	61, 62, 65 66, 67, 68, 73
36.	MEADOR, Sue 2546½ No. Corralitas Drive, Los Angeles, CA 90039	Graduate Student	73
37.	MESEDAHL, Leroy Audiovisual Director Duluth Board of Education, 2 East 2nd St., Duluth, MN 55802	Voted back	67, 72, 73
38.	MITCHELL, John Director, Audio Visual Services Kent State University, Kent, OH 44242	Ohio	73
39.	MOAKLEY, Francis X. Director, Audio Visual Center, San Francisco State University, 1600 Holloway Avenue, San Francisco, CA 94132	AECT	73
40.	MONTGOMERY, CHRISTA Coordinator of Audiovisual and Materials Center, Fayette County Schools, 2181 Cypress Drive, Apt. E, Lexington, KY 40504	Kentucky	73
41.	MOSS, Roy Audiovisual Center Grambling College, Box 61, Grambling, LA 71245	Planning Committee	70, 71, 72, 73
42.	NEIL, Marion Higher Education, College of Education, Florida State University, Tallahassee, FL 32302	AECT	73
43.	NIBECK, Richard Deputy Executive Director AECT, 1201 Sixteenth St., N.W., Washington, D.C. 20036	AECT	63, 64, 66, 68, 70, 73

		REPRESENTING	YEAR(S) ATTENDED
44.	OFFERMANN, Glenn Head Librarian, Concordia College, St. Paul, MN 55113	Graduate Student	73
45.	PETTIROSS, Virginia Director of Instructional Services, Middlesex Community College, 425 Hunting Hill Avenue, Middletown, CT 06457	Connecticut	73
46.	PRICE, William J. AV Library Service, University of Minnesota, 2037 University Avenue, S. E., Minneapolis, MN 55455	Minnesota	72, 73
47.	RAGO, U. Frank Coordinator of Instructional Media, Neshaminy School District, Old Lincoln Highway, Langhorne, PA 19047	Pennsylvania	73
48.	RANKIN, Pauline Director of Instructional Service, Arkansas Polytechnic College, Russellville, AR 72801	Planning Committee	72, 73
49.	RICHARDSON, Penny 1019 Harrison, #2, Syracuse, NY 13210	Planning Committee	72, 73
50.	ROBERTS, William Director, Media Services, Contra Costa County School District, 2371 Stanwell Drive, Concord, CA 94520	California	73
51.	ROGERS, Donald D. Division of Evaluation, St. Louis Public Schools, 1517 S. Theresa Avenue, St. Louis, MO 63104	Voted back	72, 73
52.	ROME, Stanton F. Director, Programmed Educational Resources Center, Western Connecticut State College, Danbury, CT 06810	Guest	73
53.	ROSS, William B. Director, Learning Center, Middlebury Union High School, Middlebury, VT 05753	Vermont	73
54.	RUFF, Del G. Audio Visual Supervisor Hutchinson Public Schools, 1520 North Plum St., Hutchinson, KS 67501	Kansas	69, 73
55.	SARETSKY, Gary Far West Laboratory for Educational Research & Development, 1855 Folsom Street, San Francisco, CA 94103	Graduate Student	73
56.	SAVAGE, Arthur, Jr. Ohio University, Athens, OH 45701	Graduate Student	73
57.	SCHULLER, Charles F. Director, Instructional Media Center Michigan State University, East Lansing, MI 48823	Resource person	55, 58, 59, 61, 73
58.	SILBER, Kenneth University Professor of Instructional Communications, Governors State University, Park Forest So., IL 60466	Resource person	73
59.	SKIDMORE, Carolyn ESEA-II Media Specialist, West Virginia Department of Education, Charleston, WV 25305	Voted back	72, 73
60.	SMELLIE, Don C. Chairman, Department of Instructional Media, Utah State University, Logan, UT 84322	Utah	73
61.	SPEARS, Robert E. Holiday Village, Box 12, Commerce, TX 75428	Louisiana	73
62.	STORM, Susan Teaching Assistant, College of Education The University of Iowa, C201 East Hall, Iowa City, IA 52242	Graduate Student	73
63.	TERRELL, William R. College of Education, University of Florida, Gainesville, FL 32601	Graduate Student	73
64.	TRAVILLIAN, Mary Director, Area VI Resource Center, 1101 Main, Marshalltown, IA 50158	Iowa	73
65.	TULLY, James Dean of Learning Resources Center, Western Texas College, Snyder, TX 79549	Texas	69, 70, 73

		REPRESENTING	YEAR(S) ATTENDED
66.	TWIDDY, G. Al Consultant, Instructional Technology Dept., School District of Greenville County, 206 Wilkins Street, Greenville, SC 29605	South Carolina	73
67.	ULM, Sandra Media Specialist, Edgewater High School, 3100 Edgewater Drive, Orlando, FL 32804	Florida	73
68.	VAUGHAN, Ted W. Instructor in Media, College of Education University of Wyoming, Laramie, WY 82070	Wyoming	73
69.	WASHINGTON, Theodore T., Jr. P. O. Box 475, Texas Southern University, Houston, TX 77004	Graduate Student	73
70.	WHITE, Lois Instructional Materials Coordinator, Issaquah School District 411, Box L, Issaquah, WA 98027	Washington	73
1.	COCHRAN, Lee W. Chairman, Iowa Committee for Okoboji Conference, Director Emeritus, The University of Iowa, Iowa City, IA 52242	Iowa Committee	55 thru 73
2.	COCHRAN, Lida M. Asst. Prof. & Consultant in Instruct. Technology, The University of Iowa, Iowa City, IA 52242	Iowa Committee	60 thru 73
3.	OGLESBY, William B. Director, Audiovisual Center, The University of Iowa, Iowa City, IA 52242	Iowa Committee	68 thru 73
4.	BENSON, Robert & Tanya Resident Managers, Iowa Lakeside Laboratory, Milford, IA 51351	Iowa Committee	66 thru 73
5.	CLARK, Ann Secretary, Audiovisual Center, The University of Iowa, Iowa City, IA 52242	Iowa Committee	62 thru 73
6.	CLARK, Gene Engineering Shop, The University of Iowa, Iowa City, IA 52242	Iowa Committee	62 thru 69, 73
7.	COOPER, Jerry Campus Service, Audiovisual Center, The University of Iowa, Iowa City, IA 52242	Iowa Committee	72, 73
8.	DeLUCA, Maria Motion Picture Unit, Audiovisual Center, The University of Iowa, Iowa City, IA 52242	Iowa Committee	73
9.	FORBES, Loren Manager, Campus Service, Audiovisual Center, The University of Iowa, Iowa City, IA 52242	Iowa Committee	69, 71, 72, 73
10.	HALL, David College of Education The University of Iowa, Iowa City, IA 52242	Iowa Committee	73
11.	HEDGES, John Assoc. Director Emeritus, Audiovisual Center, The University of Iowa, Iowa City, IA 52242	Iowa Committee	55 thru 70, 73
12.	NASTAV, Dennis Motion Picture Unit, Audiovisual Center, The University of Iowa, Iowa City, IA 52242	Iowa Committee	73
13.	SEEMUTH, Charles Supervisor, Photo Service, Audiovisual Center, The University of Iowa, Iowa City, IA 52242	Iowa Committee	71, 72, 73
14.	STEENLAGE, Janet Secretary, Media Library, Audiovisual Center, The University of Iowa, Iowa City, IA 52242	Iowa Committee	72, 73
15.	WILSON, Richard Media Resources Center, Iowa State University, Ames, IA 50010	Iowa Committee	73

PLANNING COMMITTEE FOR THE 1973 OKOBOJI CONFERENCE

The 1973 Okoboji Planning Committee, appointed by AECT President Robert Jarecke prior to adjournment of the 1972 conference, first met prior to leaving the 1972 conference and selected the theme "The Future of Instructional Technology." They also worked out a time schedule as to when certain steps needed to take place before their next meeting. The second meeting of the Planning Committee was during the AECT Convention in Las Vegas in April, 1973. The third meeting was held on August 11, 1973, the day prior to opening the conference this year.

At this final meeting the committee outlined the opening events, made committee assignments, and appointed a nominating committee to nominate persons for co-chairmen. The elected co-chairmen presided over all general sessions, and visited the small discussion groups to prevent duplication of reports, etc. The co-chairmen elected this year were Richard Hubbard, Professor of Education, State University College, Oswego, New York, and Robert Irvine, Highline School District #401, Seattle, Washington.

Committee Members:

Roy B. Moss, Chairman
Arthur Suchesk
Charlie Roberts, Jr.
Wesley McJulien
Guy Von Schilling
Wilma Daniels
Pauline Rankin
Penny Richardson
Robert Irvine
Robert Jarecke
Richard Nibeck
William Oglesby (ex-officio)
Lee Cochran (ex-officio)

1973 Planning Committee

Guidelines for the conference were established within the framework of an unstructured conference. Through experience over the years, it has been found helpful and time saving to plan the first opening meetings following the keynote address, then turn the meeting into an unstructured type meeting. Every delegate had a responsibility to see that the purpose of the meeting and end product, this report, were completed by the close of the conference.

* * * * * *

THE IOWA COMMITTEE - 1973

The Iowa Committee, primarily from The University of Iowa, provided the logistics of the conference arrangements and operation.

FRONT ROW: (l-r) Tanya Benson, Jerry Cooper, Lee Cochran, Lida Cochran, David Hall, Dennis Nastav, Janet Steenlage

BACK ROW: (l-r) Bob Benson, Loren Forbes, Chuck Seemuth, Maria de Luca, Ann Clark, Gene Clark, Dick Wilson, Bill Oglesby, and John Hedges

* * * * * *

FIRST GENERAL SESSION

Date and Time: Sunday, August 12 - 7:30 p. m.

Chairman: Roy Moss, Chairman, Planning Committee

Opening prayer: William Oglesby

Welcome and Concerns Regarding the Future of Technology: Lee W. Cochran

A welcome to the Iowa Lakeside Laboratory, the Okoboji Conference, and to Iowa was made by Lee Cochran. Presenting his concerns regarding the "Future of Instructional Technology," he further referenced several books --the first, A Look at Business in 1990, the results of a summary of the White House Conference on the Industrial World Ahead, held in February 1972; the second, Educational Futurism - 1985 - Challenges for Schools and Their Administrators, the results of the 1985 Committee of the National Conference of Professors of Educational Administration held in 1972.

The keynoter of the conference was Dr. Donald Ely, Syracuse University. His speech follows.

PROJECTIONS, PROBES AND PROBLEMS OF INSTRUCTIONAL TECHNOLOGY IN THE FUTURE

Donald P. Ely

Prologue

Keynoter Donald Ely

The future of Instructional Technology is probably the most difficult assignment you could have given me. Where does one begin? I'd like to take you through the cognitive map I explored as I prepared this presentation in order that you will understand the context from which I operate.

A basic premise is that instructional technology does not exist as an entity; it draws life only as it relates to the larger context of which it is a part. The larger context is education and larger yet our society.

The dilemmas faced in preparing this presentation were: (1) where to begin? (2) how global the discussion should be? and (3) how to be relevant to instructional technology without making it the focal point?

The alternatives were overwhelming:

1. Review the vast literature on futures in general of which Toffler's Future Shock, Kahn and Wiener's The Year 2000 and Bell's Toward the Year 2000 are only three examples.

2. Select those future forecasts which impinge on education: genetic manipulation, laser technology, man-machine symbiosis, increased lifespan, chemical manipulation of the brain, extrasensory perception, etc.

3. Describe societal trends: in population growth, in economic development, in governmental control, in technological developments.

4. Synthesize the various futures studies which emphasize Instructional Technology, e.g., Hamreus' Media Guidelines, which used a Delphi forecasting technique; Allen's Trends in Instructional Technology, done for ERIC at Stanford and Bell of Canada's An Exploration of the Future in Educational Technology.

5. Report the findings of several studies on the future of education, such as publications of the EPRC's at Syracuse and Stanford,

(Ely's keynote address continued)

Morphet's Designing Education for the Future and Worth's A Choice of Futures for the Province of Alberta's Commission on Educational Planning.

Where do we begin to consider the future?

There is no escape from the society in which we find ourselves. To consider the future of instructional technology without the broader perspective is like wearing blinders. Therefore, we will briefly consider broad future projections.

But most of us will live our professional lives in the field of education. Therefore, we will emphasize educational futures.

The individuals attending this meeting are from the field of instructional technology. Therefore, we will begin with where we are (and where we have been) and then return to a consideration of instructional technology in the future in light of societal and educational futures.

My purpose is not to predict the future. No person or group can do that. My purpose is simply to help us all to recognize the changes that have occurred and are occurring to help bring about the kind of understanding that may render the changes less painful; to warn of hazards along the way; and to attempt a few glimpses of what the future could be if we would but help to create it.

What Is Past Is Prologue - Or Is It?

We seemed to be preoccupied today with a concern for the future. There has been a proliferation of publications dealing with the future over the past few years. There are series of films dealing with the future. Centers for the study of the future have been established. More and more professional meetings follow the theme of the future. Books have been written. Study commissions have been formed. Concern for the future is pervasive.

It's not so much that we haven't been concerned about the future in the past. We have always looked ahead and tried to estimate what is around the next corner. Future orientation has usually been based on the next two to five years. (How many 5-year plans were created for developing nations?) The new emphasis, however, looks at the future as ten or more years away. The year 2000 is mentioned with some frequency.

To consider the future of one discrete field, such as instructional technology, is becoming increasingly difficult. There are too many societal variables which impinge upon the field to look at it in isolation. On the surface it might seem simple to estimate what new inventions appear to be on the horizon, e.g., drugs to enhance learning, easy computer access, and lasers. The simplistic application is to ask what implications each new

development might have for instructional technology. This approach would be a serious error in my opinion. We certainly should have learned that educational technologists over the decades have embraced each new technology and have tried to create a relationship between that technology and education. Just within this century we have heralded the motion picture, radio, television, programmed instruction, language laboratories, cable TV systems, computers, and satellite communications as significant new developments which would substantially alter the educational environment. In every case, for those applications which have been around long enough to be studied, the results have been far from those predicted and the effects on children's learning (which, after all, ought to be the sine quo non of our efforts) has been negligible.

The lack of significant results has probably stemmed from the disease I call media myopia - the belief that a single medium will provide answers to all educational problems. Our projections have fallen far short of the mark and our aspirations have been dashed only briefly enough to move on to a new medium which is always appearing on the horizon. Today it's cable television and satellite communications and tomorrow it will be laser transmission and drugs for learning. Shouldn't we learn a few lessons from our past experience? Those who don't are doomed to relive the past! Perhaps the tools we have used to make our estimates were simply the wrong ones. Perhaps our focus on one medium, or even on one field, has caused a type of tunnel vision which excludes the rest of the world and also affects the field being considered. Perhaps we have emphasized things first and diminished the importance of people and processes. Perhaps we have been reactive rather than proactive. A reactive person is one who sees something coming and does something about it but a proactive person is one who feels that something is coming and does something before it appears. The reactive person adjusts to the situation in which he finds himself while the proactive person helps to shape the situation in which he wants to find himself.

The more I consider the future of instructional technology, the more I believe that, if the goals of our field are attained, the field as a discrete entity will disappear. Consider our brief history. Our beginnings in the early part of this century were marked with a primary concern for educational products. Saettler calls this the "physical science" approach to instructional technology. We were concerned about getting the right materials and equipment to the right place at the right time and, hopefully, helping the teacher to use them in the right way. Once the picture was on the screen, our job was done. The functions performed by professionals, who were not trained in the field, were largely administration and public relations. Gradually there was a shift to a concern for the communication of ideas and we borrowed heavily from the communication theorists. At this point our materials and equipment were considered to be the carriers of the messages, but we still had to provide the support services to make the whole process work. It was natural in our evolution that some of the behaviorism of communications would have led to the consideration of operations research and systems. In fact, it was

here at Okoboji in 1956, that Charles F. Hoban, Jr., first articulated this relationship in his keynote presentation and we were on the path of instructional systems design which is much more highly developed today. A note of credit should go to the learning psychologists who pioneered the programmed instruction movement in the late 1950's. Michael Eraut of the University of Sussex in England goes so far as to say that "...if programmed learning had initially been developed with texts rather than machines the term educational technology might never have been invented. Nobody would have seen the need for an umbrella title to include both audiovisual specialists and learning theorists." With each of these new dimensions the field began to form and to become what it is today - an amalgam of several disciplines and fields in an applied setting.

But another theme was emerging as well. As each new emphasis was developed and adopted, media began to be part of the process, and lost some of their uniqueness as vehicles for carrying information. Thus, in the communication paradigm, media became the channels which encoded messages for decoding by a receiver. The channels could not easily be separated from the entire process of communication. As programmed instruction developed, the medium was diminished as part of the process which structured learning based on behavioral objectives. It was usually quite an irrelevant matter whether the information appeared in book format, on a roll of paper passed through a machine, on a filmstrip or a motion picture, or in a computer storage bank. And with the development of instructional systems, the medium became one component of a series of ordered steps which assisted in the creation of an instructional system. The instructional system is not a medium or series of media, it is an ordered process of teaching which uses a variety of formats in the presentation of information. What we have seen here is the gradual fading of media as dominant concerns of the instructional technologist and an emergence of media in context. Current innovative departures in education today involve media in context, not media for the sake of media. For example, individualized instruction in its various manifestations depends upon media; alternative schools draw heavily upon community resources and the full spectrum of media; and so-called open education requires an arsenal of resources. The important thing to remember here is that media has assumed a role among other variables in many contexts.

As media begin to be parts of the larger whole, the roles of the personnel who deal with media must necessarily change. We still need delivery support systems which get the right materials and equipment to the right place at the right time but the professional is now able to delegate these responsibilities to staff people who work under his direction and do not need extensive professional preparation. The professional, at the same time, has to become familiar with the broader context in which he must operate and therefore has to have professional education and experience which will permit him to work effectively in this new environment. Those who have grown up in the field and have not done their homework are being relegated to more insignificant

positions with less influence and consequent bitterness and paranoia. Those who have done their homework and those who have just recently completed professional education programs which emphasize systematic instructional development from a largely behavioral point of view are the ones who seem to be emerging as leaders and who are making a difference. Keep your eyes on these people since they will chart the future of instructional technology.

So much for the past and the context. On to the future!

Ways of Looking at the Future

There are a variety of approaches which are used to view the future.

1. The Passive Observer. This individual sits back and lets the future happen to him. The passive observer feels adaptable to any situation in which he finds himself. His motto: "Que será, será."

2. The Extrapolator. This individual puts her finger to the wind two or three times and on that basis draws the curve. Even though the data are based on discrete events she feels safe in making the projections. The most frequent result is more of the same. Her motto: "Bigger is better."

3. The Crystal Ball Gazer. This individual is usually creative and comes up with fantasies of the future. Science fiction writers fit this category. The crystal ball gazer is a future historian who prepares scenarios for 1985 and 2001. There is just enough truth to make his projections seem very plausible. His theme song is "Fly Me to the Moon."

4. The Synthesizer of Indicators. This person carefully studies related developments in science, technology and society and makes estimates of future cultures. The fields of social psychology and anthropology contribute to this category. Motto: "The future isn't what it used to be."

5. The Scientific (or Pseudo-Scientific) Investigator. This person uses accepted research methodologies to come up with her forecasts. The Delphi technique is the sine quo non for gathering data but other "accepted" approaches are used. Her motto: "When you don't know what to do, gather data."

6. The Proactive Participant. Is really quite different from the previous types since any but the first type of individual could possess this quality. The proactive participant is one who

would help to make the future happen. This person is able to set goals and deliberately move toward them. The proactive participant is the exact opposite of the passive observer. Motto: "If I can't find a way, I'll make one."

My hope is that each of you will embrace the approach of the proactive participant. It is imperative that each of us remembers that the individual is responsible for what happens in the future, no matter what has happened in the past.

Methods for Studying the Future

Traditionally planners have relied upon quantitative projections of past trends to establish the parameters of the future. This approach has two problems:

1. In a world where the basic values of society seem to be changing at an accelerating pace one might expect substantial discontinuities which could make the future significantly different from the past.

2. Extrapolations from past trends do not help when one is forecasting the adoption of new and unfamiliar systems.

For these reasons qualitative methods of forecasting are necessary. Two such methods are available to the futurist today - these are scenario writing, in which the forecaster, either individually or with the aid of a group, interprets the results of the cross impacts of all the relevant known variables and creates a scenario (or alternative scenarios) of the future world. The second qualitative method is the Delphi technique. With the Delphi method a panel of individuals, who are knowledgeable in the area to be explored, forecast likely developments in that field. The distinguishing feature of the technique is that it relies upon several rounds of questionnaires to explore the views of the panel with statistical data and summaries of views of the other panelists being fed back to individual participants after each round. This procedure creates a modified form of group interaction and exchange of views. At the same time, it removes many of the counter-productive elements present in face-to-face meetings such as the effect of status, group pressures to conform to majority opinion, the persuasive and dominant personality whose views may be quite wrong, and many other interpersonal variables. It replaces these influences with some distinctly different characteristics - notably anonymity, iteration and controlled feedback - all of which tend to foster calm, contemplative consideration of the issues. Reasonably comprehensive evaluations of the technique have found that it is a significant improvement over normal group meetings both in terms of arriving at a group consensus and in improving the accuracy of group forecasts.

(Ely's keynote address continued)

Much of the information gathered for this presentation was generated by these two methodologies.

The Future Society

My personal synthesis of the futures literature indicates the following projections, trends and forecasts:

1. There will be a 25% population increase in our nation by the end of the century with a higher percentage of people under 25 years of age.

2. Eighty percent of the population will live in urban areas by 1980 (vs. 70% now) increasing to 90% by 2000.

3. Per capita income will increase but buying power will not increase proportionately since inflation will reduce effective income. Gross national product will increase by 50% by 2000.

4. The influence on our lives of religion, work, marriage and the family will decline in the future. The decline will be balanced by increasing sensitivity to human relationships and increasing individual involvement and participation in all aspects of society.

5. Mental illness, crime, drug abuse and alcoholism will increase.

6. Tensions between groups will increase: black-white; rich-poor; faculty-student; and especially young-old. The greater proportion of the young will question leadership control in the hands of the older population.

7. Advances in technology will continue in nearly every arena of society but will be more noticeable in developing nations where modernization and industrialization will increase.

On Change

One of the most frequently used words in all the futures literature is change. Many futurists see the institutionalization of change. To me, the understanding of the change process and the ability to cope with it and manage it is so basic to our personal and professional future, that it is a hollow exercise to go further without some consideration of this process.

When we pursue a new goal, the result is perceived as sufficient if we succeed. When a similar goal is pursued later, we tend to repeat our

successful strategy. We develop habits on the basis of successful strategies. As habits form, the actions we take are less and less open to change. As we get older we carry our habits with us into our future and we are less open to alternative ways of behaving because we have an investment in our habits.

If we are to have a future qualitatively different from the past, we must concern ourselves with discarding our once-sufficient habits. There can be no alternative futures if the future is perceived as linked to the past. As new ideas, products, processes and concepts confront us, our habit barriers inhibit consideration of the innovations.

A central problem is - how much change the human can accept and assimilate and the rate at which he can take it. Can he keep pace with the ever-increasing rate of technological change alone, or is there some point at which the human organism goes to pieces? Can he leave the habits and static guidelines which have dominated his past and embrace new ways - which will be required for survival?

It always seems easy to identify those who are resisting change, but difficult for us to see the barriers in ourselves. Don Williams, to whom I owe much for my own professional development, often admonished me to calm down when I observed the laggards. He said: "Eventually they will die off and then change can begin." But if they don't die - and genetic research appears to be leading to this intriguing eventuality - how will old ideas and old habits disappear? Will we be able to change if habits don't disappear with the demise of the people who hold them?

Carl Rogers sees the hope for coping with change through therapy, intensive encounter groups and in organizations. He says:

> It is the magnetic attraction of the experience of change, growth and fulfillment. Even though growth may involve intense pain and suffering, once the individual or group has tasted the excitement of this changingness, persons are drawn to it as a magnet. Once a degree of actualization has been savored, the individual or the group is willing to take the frightening risk of launching out into a world of process, with few fixed landmarks, where the direction is guided from within.

This is one way of beginning to prepare ourselves for the future. There are other ways. Consider them!

The Future of Education

Those who have ventured to posit future developments in education tend to reflect the societal changes of which education is but one dimension.

A period of change in education is forecast during which concepts, curricula, methods and the role of the teacher in the educational process will alter steadily over the next twenty-five years.

1. There will be increasing access to educational opportunity. Massive improvements in programs for the culturally deprived will be instituted.

2. There will be greater diversity of post-secondary education causing a restructuring of higher education. Demands for continuing education to meet changes in industry and the professions will create opportunities for individuals to acquire new skills and competencies without classroom attendance and constant teacher interface.

3. Educational coalitions will emerge. Community resources will combine with schools to offer integrated work-related experiences. Institutions and schools will develop more consortia and regional service centers to offer resources that one institution alone could not offer. Multiple use of community facilities for education, health, government and communications will increase.

4. There will be greater participation in planning and operating educational programs. Citizens and parents will demand more direct influence on curricula, methodology and school expenditures. Educational goals will be jointly developed by parents, educators and learners. These goals will reflect the perceived needs of individual learners.

5. Greater openness to change and experimentation will foster a greater willingness to employ technology as it becomes more integral to the process of teaching and learning. But, this technology must meet certain design criteria. Specifically, it will have to be capable of fostering self-expression, involvement in the learning process, individualization of instruction, and it will have to ensure that school work is more rewarding.

These are only a few of the many trends which are on the horizon. They appear to be the most salient trends, but others can and should be added.

The Future of Instructional Technology

It would seem logical at this point to provide a list of trends for our field, but isn't that the purpose of this leadership conference? I believe that it is your job, and mine, to help create that future. We need to become the proactive participants in this process. This conference should not start by examining where we are now and then how much can realistically be

achieved. Rather, it should first look for the ideal and then examine how we can bridge the gap between the present actuality and the ideal.

Let me use as an agenda for this conference an outline developed by Dr. Walter Worth for the Commission on Educational Planning of the Province of Alberta. His report, A Choice of Futures, should go on your "must read" list. The report calls for four ideals, ten principles and six goals.

> "Four ideals. Education must always plan ahead, and look ahead, and educate ahead (Futures Perspective). Our school system must support the concept that education is a cradle-to-grave process (Lifelong Learning). Any reshaping of the educational system should involve all of our citizens (Participatory Planning). Each person should determine his own goals and direct his own life - responsibly and with a social conscience (Autonomous Individuals). Like all ideals, says the report, these may not be totally attainable. But they need to be stated, remembered, and striven for."

> "Ten principles. Our future educational system should obey the following principles: the system, the programs, the people - all should respond successfully to change (Adaptability). Educational programs should demonstrate relevance to today's realities and tomorrow's probabilities (Context). Functional harmony should exist within the system, and between the system and society (Coordination). Broad educational choice must be available to suit differing individual tastes (Diversity). Maximum results must be obtained at minimum effort - and cost (Efficiency). Equal educational opportunity must be available to all (Equity). All of those affected should have a voice in program policy (Participation). Education should be related to the needs, aspirations and rights of individuals (Personalization). Education should strive for excellence in all it undertakes (Quality). Education should develop those behaviors which cement our common humanity (Unity)."

> "Six goals.

> *Personal Autonomy--growth towards self-hood and individual freedom

> *Social Competence - growth towards successful relationships with others

> *Ethical Discretion - growth towards personal values and social conscience

(Ely's keynote address continued)

*Creative Capacity - growth towards broad leisure interests and skills

*Career Proficiency - growth towards occupational competence

*Intellectual Power - growth towards effective thinking, feeling and knowing"

I close with a statement of urgency. The time for change is now, because the p[o]tentials are here. This is clearly a time for us to create a design for th[e f]uture of instructional technology. If individuals and groups within the fie[ld] do not move and use the resources available to them, we may find that [oth]ers have done it for us. This field can close down, can become unchangeable, and become - to put it bluntly - impotent. The choice is ours. I hope that we will not say it is impossible, but instead will resolve to make it possible.

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(First General Session continued)

The discussion of Dr. Ely's keynote was delayed until Monday morning.

Candidates for co-chairmen of the conference were announced by Robert Jarecke, Chairman of the Nominating Committee: Richard Hubbard, Robert Irvine, Wesley McJulien, Marie McMahan and Carolyn Skidmore. It was announced that the election would be held Monday morning at the Second General Session.

Delegates were divided into groups of two's with instructions for each to ask the other, "What makes you uniquely different?" Then each interviewer introduced his/her interviewee to the entire group.

First session was adjourned at 10:25 p. m.

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SECOND GENERAL SESSION

Date and Time: Monday, August 13 - 8:00 a. m.

Chairman: Roy Moss

William Oglesby introduced the Iowa Committee.

Question and answer period on Dr. Ely's keynote address: Dr. Ely fielded many questions from the delegates relating to his keynote presentation on Sunday evening. The discussion clarified some of the questions of the delegates after they had time to think over the statements made the previous night.

A ballot vote was taken for co-chairmen. The two elected to serve in this position were Richard Hubbard and Robert Irvine. Recessed for

coffee break and to give the new co-chairmen an opportunity to have a short meeting with the Planning Committee regarding next steps.

Planning Committee Chairman Moss (center) presents gavel to co-chairmen Hubbard and Irvine

Meeting reconvened at 11:30 a.m., with Robert Irvine presiding.

Announcements were made of all committees who would serve during the conference:

Resolutions: Donald Rogers, Chairman; Marion Neil and Clement Chow

Press: Warren Boyd, Jr., Chairman, Rolland Billings and Sue Meador

Chairman of Rest and Nit-Picking: Wesley McJulien

Blabbermouth (Daily newsletter): Wilma Daniels and Pauline Rankin, Co-Editors; Susan Storm, Kenneth King, Sue Meador, Penny Richardson, C. J. Hughes, Carolyn Skidmore, Warren Boyd, Jr., and William Roberts, the Graphic Artist.

The resource delegates were introduced.

Delegates were divided into eight groups to tackle the problem of combining the long list of problem areas into six or seven sub-topics.

The second general session reconvened at 11:10 a.m. to hear the recommendations of the eight discussion groups. Persons reporting were: James Tully, Francis Moakley, Susan Storm, Donald Rogers, John Bizzell, Rolland Billings, and James Lawson. From these recommendations, the delegates agreed on the following six topics:

The Future of Society - 2002 A.D.
The Future Education and Curriculum Trends
Future Strategies for Improving Instructional Technology
The Future of Management and Funding of Media Programs
Instructional Technologist: A Concept for A.D. 2000
Change Processes: An Exploration into Strategies Moving into the Future

Noon recess.

At 1:00 p.m., the second general session reconvened briefly to give room assignments to the study groups, making sure that everyone knew where to go.

(Second General Session continued)

The Planning Committee met to preview a program by Lawrence E. Fraley of West Virginia University. It was decided to ask Dr. Fraley to repeat the showing at 10:00 p.m. for delegates desiring to see his three-screen presentation.

The general session reconvened at 3:30 p.m. to hear four-minute reports from the study groups. The purpose of these reports was to determine if the delegates were satisfied with the topics as identified in the morning.

Lucy Ainsley presented the idea of forming a seventh group to explore the possibility of producing an alternate format for a report. She asked others to join her, inviting everyone interested in working on "The Future of Instructional Technology: A Mediated Package."

Announcements:

David Hall, Iowa Committee, described the resources (books, articles, and films) provided as references for the delegates.

Monday night: Meet in study groups from 7:00-10:00 p.m. Fraley's presentation at 10:00 p.m.

Tuesday: Meet in study groups until 11:00 a.m. Have a written report ready to hand out at 11:00.

11:00-12:00 noon: Meet in general session to hear AECT Report.
1:00-2:00 p.m.: Each group review the papers of the other groups.
2:00 p.m.: General Session.

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THIRD GENERAL SESSION

Date and Time: Tuesday, August 14 - 11:08 a.m.

Chairman: Richard Hubbard

Robert Jarecke, President of AECT, reported on action of the July 22-23, 1973 Board of Directors meeting, and described problems facing the association in the year to come. Assisting Jarecke were Richard Nibeck, AECT Staff, and William Oglesby, Secretary-Treasurer of AECT, in matters relating to the 1973-74 budget.

President Robert Jarecke reports.....

Robert de Kieffer

Robert de Kieffer, Chairman, AECT Leadership Committee, reported on progress being made by that committee, and the Leadership Fund in the AECT Foundation.

Recess for lunch at 12:00 noon.

The third general session reconvened at 2:00 p.m., with Robert Irvine presiding. Each group was given fifteen minutes to present their first written report. Discussion of each was delayed until all had been presented. These first reports were descriptions of the progress of each group.

Lida Cochran, conference recorder, presented a format for the identification data essential to each report. Also, she gave a traditional outline format, but urged that the groups explore the possibilities of presenting their information in "selective topography."

Adjourned at 4:30 p.m. Tuesday evening, August 14, was declared "free evening" for all delegates.

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FOURTH GENERAL SESSION

Date and Time: Wednesday, August 15 - 8:00 a.m.

Chairman: Richard Hubbard

A short session was held to make announcements and provide information on a deadline for final written reports to be distributed. It was

(Fourth General Session continued)

agreed that the reports did not have to be in final form, but that, if possible, written rough drafts should be ready for pick up at Mahan Hall at 4:00 p. m. However, if committees preferred, they could present verbal reports.

Recess at 8:35 a. m. for delegates to work in discussion groups.

Fourth General Session continued at 7:40 p. m., with Robert Irvine presiding.

There was discussion of the Okoboji "product" with the explanation that the written report always described the conditions under which the group reports were prepared, emphasizing the fact that these are "working papers."

The reports were in varying stages of preparation. Several were presented verbally with the aid of transparencies.

Before adjournment the session discussed structure of events for Thursday. Decisions reached were:

Final reports due at 4:00 p. m.
Delegates read reports from 4:00-6:00 p. m.
Evening session to convene at 7:30 p. m.
Strategies: Eliminate presentation time. Discussion limits to be set by the co-chairmen.

Adjourned at 10:42 p. m.

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FIFTH GENERAL SESSION

Date and Time: Thursday, August 16 - 8:10 p. m.

Chairman: Robert Irvine

The first hour was spent discussing procedures for accepting reports. The final decisions were: (1) that each report would be presented and discussed; (2) that the co-chairmen would have some discretion in calling time; and (3) that the criteria for acceptance of reports and debate on those reports, be based solely on the internal consistency and clarity of the report, and not on the acceptance of the ideas presented in the report by the conferees.

Reports from the first six groups were presented and discussed. Some changes were suggested and agreed upon. The six reports were accepted for publication. The mediated package idea presented by group seven was commended but not accepted for publication, since the package was incomplete and group seven wanted to continue working on the visuals and tape.

Adjournment at 12:00 midnight.

SIXTH GENERAL SESSION

Date and Time: Friday, August 17 - 8:00 a.m.

Chairman: Richard Hubbard

Richard Hubbard presented the suggestions for the 1974 Okoboji theme. The 1974 Okoboji Planning Committee had been announced the previous day by AECT President Robert Jarecke, by authority of Gerald Torkelson. President-Elect Torkelson was unable to attend this year's conference. Those appointed to next year's committee were: Richard Hubbard, Chairman; Robert Irvine, Vice-Chairman; Rolland Billings, Warren Boyd, Jr., James Lawson; Constance Leean; Wesley McJulien; Marion Neil; Pauline Rankin; Penny Richardson; Kenneth Silber; Gerald Torkelson; Lee Cochran; and William Oglesby.

With Richard Hubbard as Chairman of the 1974 Okoboji Planning Committee, the suggested themes for 1974 were then turned over to him for consideration by the Planning Committee of 1974.

Donald Rogers presented the report of the Resolutions Committee which was accepted by the delegates as follows:

RESOLUTIONS COMMITTEE REPORT

COMMITTEE MEMBERS:

Donald Rogers, Chairman
Clement Chow
Marion Neil

Resolved, That Lee and Lida Cochran and Bill Oglesby be commended and warmly thanked for their work in making the conference the success it is. Their personal and professional contributions are the key to the spirit of Okoboji.

Resolved, That sincere appreciation be extended to the office staff and the Iowa Committee without whom there could be no Okoboji.

Resolved, That our thanks also be extended to the Conference Planning Committee; to Robert Irvine and Richard Hubbard, Co-Chairmen; and to Wesley McJulien, Chairman of Rest, for their tireless efforts toward the smooth and successful operation of the conference.

Whereas, The Lake Okoboji Conference is a gathering of delegates charged with considering major concerns of the future;

Whereas, The Nineteenth Lake Okoboji Conference has agreed upon the need for the exchange of ideas about the future;

(Resolutions Committee Report continued)

Whereas, AECT is the professional organization representing the delegates;

Resolved, That the issues and positions stated by the Lake Okoboji Conference Committees be edited, published and disseminated in a meaningful format to the AECT membership.

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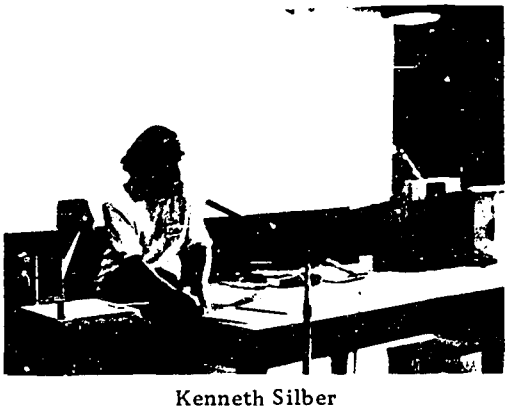
(Sixth General Session continued)

The summary of the conference was given by Kenneth H. Silber who preferred to label his comments as: "Review of Progress Report."

"REVIEW OF PROGRESS" REPORT
By Kenneth H. Silber



Kenneth Silber

I am happy to be at the Lake Okoboji Educational Media Leadership Conference; it is something I have read about and wanted to attend for many years. I have learned many things and met many fantastic people. But I must admit that, as someone here for the first time, I have some ambivalence about being called upon to summarize the proceedings. Of course, I am proud at being selected for the task by the committee. I am also apprehensive though, since there is so much to learn about what happens at Okoboji, I'm not sure one can do it all the first time though.

I remember being put in a similar situation when I first entered grad school, a situation that seems to have set the pattern for much of my professional life. Jim Finn ordered several graduate students to put together a three-screen multi-media presentation about "The State of the Art of 8mm" for an AVEAC Convention. I had come to USC with a PI background and knew nothing about 8mm and even less about three-screen multi-media presentations. I explained this, and was told "what better way to learn than by doing it." Well, I learned about 8mm and three-screen multi-media presentation and then I asked "why use three screens when, based on the objectives, content, and treatment, two screens would do fine?" I was told "Because that's the

we make presentations." I asked questions about that accepted procedure from my naive uncommitted stance, and we eventually agreed to do a two-screen presentation instead.

I see the components of this occurrence being related to my role here. I knew nothing about Okoboji when I got here. And I assume that either the committee felt a great need to assure that I attended sessions, or they, too, felt that "what better way to learn about Okoboji than to have to summarize it." The second parallel is that I have, during my learning process, asked questions about what I've learned from my naive and uncommitted stance. And I would like, in addition to reviewing what I've seen, to raise some of those questions with you.

The first thing I want to say is that this is not, and cannot be, considered a summary. Summaries imply ends of processes or products. And if we are to be, as Don Ely suggested in his keynote address, proactive participants in the future, this conference cannot be an end, but must be a beginning, of a change in the way we think and behave. Therefore, I assume that we will, in some manner, carry on what we have begun here. I will call this a Review of Progress report.

Secondly, it is impossible to put together an overall objective review of the conference so far. There are as many Okoboji conferences as there are people here; each one is unique. Each one of us perceives and learns from the experience differently. So what I will be presenting here is a review of my Okoboji experience--what I saw happen. I say this, not to apologize at all for my perceptions, but rather to emphasize that it's possible you will feel, and it is okay for you to feel, that I am completely or partially wrong in what I saw happen.

Leadership and Lake Okoboji Conference

Now, the Lake Okoboji Conference has as its purpose, the development of leadership in the educational media field. Last year's Okoboji Conference looked at what leadership was. One group suggested that leadership does not reside in the "great persons" who lead the world, but rather...

> Leadership is a function. This means that it is a dynamic element which has to be taken care of in some way to enable a group to identify and achieve its goals.
>
> This function may be fulfilled in many ways, e.g., by formally appointed or elected persons or by process or belonging to such a group.
>
> The functional approach to leadership takes this first statement as its starting point and implies that any member

> of the group, alone or as part of a team, given a particular situation and a specific time, may take on the responsibility for fulfilling the function of leadership.
>
> Functional leadership means that group members have shared the responsibility to carry out the various tasks of leadership. The functional approach is dynamic in that leadership is specific to a particular group in a particular situation at a specific time.
>
> This approach does not necessarily imply that leadership is a unitary function, but keeps open the possibility that it might be broken up into different functions which may occur, such as clarifying, informing, relaxing tensions, summarizing, directing, etc.

To help this type of leadership emerge, the Okoboji conference has two components. The process, the mystical "Okoboji Process," is concerned with the process of your "becoming," and it is the true focus of the conference. The content, in the case of the Future and Instructional Technology, is a by-product, or vehicle, to facilitate this process of becoming. I would like to review each of these separately first, and then try to show a relationship between them.

Process

Early on Monday, you were thrown into an unstructured group with a self-selected but undefined task and asked to function. Most of the groups here began by operating as do most groups. You could call it the committee approach. There was: a) the pushing of individual agendas, b) the attempts to become the "great person" leader, c) decisions made by voting, d) hostile and personal attacks, e) lack of support for others in the group, f) lack of effective use of group resources, g) lack of dealing with the process that was occurring in the groups, and h) lack of effective group thinking techniques. However, as the Okoboji process allows for, the groups did not stay at this level. All the groups reached some sort of a crisis point, at which these dynamics stopped in the group, and a change to the emergence of the functional leadership in the group began to occur. Some groups, obviously, have changed more than others. Those changes have been in the direction of a) change from individual to group identity and agendas, b) the rotation of leadership in the group depending upon the skills needed at a particular point in the process, c) decisions being made by consensus, trying to include all people and ideas in the decision, d) unthreatening, unhostile, intellectual challenge of ideas instead of people, e) support of others in the group, f) identification and utilization of the unique resource of each group member, g) constant monitoring of the process of the group, and the willingness to deal with process as well as content issues, and h) use of thinking techniques which generate, rather than inhibit, creative ideas.

(Silber's Review of Progress continued)

And as each individual in the group learned and used these processes in the context of the group, she or he became a functional leader, and met the goals of the Okoboji conference.

But these small groups were not all the Okoboji process. There was also the large group, in which small groups presented, and then defended, their ideas. In the large group, however, individuals never moved to the emerging leadership role, as they deferred to authority and resorted to decision making by parliamentary manipulation rather than by consensus and by effective use of group resources.

And of course, there was the singing, the volleyball game and its fantastic referee, the show and the boat ride, the exercise and meditation facilities in Arnold's Park, and dispensary to help heal our wounds and woes.

And finally there was the opportunity for many of us young people at the conference to rub elbows with, talk with, and exchange ideas with, those leaders of our field whom we have known only by reputation, and to find that those leaders, the Lee Cochran's, Don Ely's, Charlie Schuller's, Bob deKieffer's, Bob Jarecke's and Horace Hartsell's, get snake bite even as we do.

Content

To facilitate this process, we had a task--to explore "The Future and Instructional Technology." We began that exploration in a probing, challenging, insightful, and future oriented keynote address by Don Ely which explored "Projections, Probes, and Problems of Instructional Technology in the Future." One of Don's key notions was the many different ways of looking at the future. He identified the Passive Observer, the Extrapolator, the Crystal Ball Gazer, the Synthesizer of Indicators, the Scientific Observer, and the Proactive Participant roles, and strongly urged the Okoboji conference to adopt the proactive participant role. He then summarized his personal synthesis of the futurist literature regarding the future of society and the future of education. Don declined to speculate on the future of instructional technology, insisting that that was the job of the conference. He did, however, suggest an agenda for the conference based on the outline used in the report A Choice of Futures, or the Alberta report. The report calls for four ideals, ten principles, and six goals for education in the future, and I think these are important enough to repeat here.

THE IDEALS	THE PRINCIPLES	THE GOALS
Futures Perspective	Adaptability	Personal Autonomy
Lifelong Learning	Context/Relevance	Social Competence
Participatory Planning	Coordination	Ethical Discretion
Autonomous Learners	Diversity	Creative Capacity
	Efficiency	Career Proficiency
	Equity	Intellectual Power
	Participation	
	Personalization	
	Quality	
	Unity	

(Silber's Review of Progress continued)

To meet Don's challenge to be proactive, the group identified six themes to be discussed during the conference. The reports of these groups are presented in detail elsewhere in this report, but I would like to review the six topics and give a one sentence description of each. First was "The Future of Society," which spelled out an overall context of the "world village" and the role of society and the individual in it. Another theme was "Education and Curriculum Trends" which identified likely future trends in education, and generated a model for developing curriculum which would operate in many possible alternative futures. A third theme was "Strategies for Improving Instructional Technology" which defined what the instructional technologist does and identified strategies those in the field could use to become facilitators in the future. The theme of "Management and Funding of Media Programs" dealt with alternatives in the future for sources of funds, securing funds, managing funds, and being accountable for outcomes of using the funds. Moving to a more personal approach, the theme "Instructional Technologist: A Concept for the Year 2000" defined who an instructional technologist is, what his position in organizational structures should be, and how he should be trained. Finally, the general theme of "Change" generated important questions for use by a change agent, and modes of thinking change agents can use to be productive and creative thinkers and leaders.

Observations and Concerns

You might have noticed that in the past set of comments, I used the expressions "ideal Okoboji process" and "prototype" of an alternative learning environment for the future. The reason for that is that, as Ron McBeath has continuously pointed out at this conference, one is never self-actualized, but rather one is always self-actualizing. And I think that this is true of the Okoboji Conference, just as it is true of all of us. While the conference is on the road to this ideal, and is much further along than many other types of experiences, it still has not reached that point. It has, as does any system, some problems; and for the feedback mechanism of a system to work, and correct the problems in a system, those problems must be made clear. To refuse to recognize the existence of problems will cause a system to stagnate and die.

Therefore, I would like to pose some observations and concerns related to this 19th Okoboji Conference. These are not concerns I have made up out of my head, but rather are the results of my observation of, and participation in, this conference, and, more importantly, considering my "first-timer status," are the concerns that have been expressed to me by other Okoboji delegates. I present these concerns in the expectation that they will be taken by this group in the same spirit that they would be taken in any group of

leaders--that is, as ideas to be considered and not as a threat or personal attack. I hope that next year's Planning Committee and the Iowa Committee will seriously consider these concerns as feed-forward for next year's conference. Here goes:

**Did the conference agenda conflict with, and inhibit, individual and group agendas?

**What is the real purpose of Okoboji--the process or the product or both? Does the structure we used this year really facilitate that purpose?

**Did the drive to produce a report get in the way of emerging leadership?

**Was the great amount of structure of this conference compatible with the desire to have leadership emerge?

**Was the passive acceptance of the authority of the co-chairman and Planning Committee by the participants compatible with the concept of emerging leadership?

**Was the use of the large group time profitable?

**Did the request to appoint chairmen inhibit the emergence of leadership in the whole group?

**Is there the need for some direct attention to group process skills?

**Is there a way the delegates can have a more direct voice in the goals and process and procedures of what is, after all, their conference?

**Is it a good idea to have a first timer summarize the conference?

**Finally, is the Okoboji Conference willing to consider these concerns and the possibility of making changes?

A Synthesis

I said earlier that I saw a relationship between the Okoboji conference process and the content of this year's topic, and I would like to elaborate on that a little now.

I can state the thesis best this way: The ideal of Okoboji process is a prototype of the functioning of education and of Instructional Technology in the future. That is, it is the prototype of alternative learning environment of the future that utilizes instructional technology (which includes people, processes and devices) not to teach, but rather to provide resources, including people, facilities, materials, and time, to give learners time to reflect and grow in cooperation with others.

Another way of saying this is that the ideal of Okoboji is the prototype of a learning system which meets the four ideals and ten principles of education that the Alberta Report suggested for education for the future. Let's look at the ideal experience of Okoboji in light of these ideals and principles. First, this conference certainly has a futures perspective. Second, since all of you are "beyond school age" this conference is dedicated to at least one part of lifelong learning. Third, there was participatory planning in that you participate in the operation and decision-making of the conference. Fourth, participants are autonomous learners since they are able to determine their own goals for the conference. Now the relevant principles. First, the

(Silber's Review of Progress continued)

conference shows adaptability--it tries to respond to changes in participants needs and its needs. Second, the conference shows diversity--choices are available to suit participants differing educational needs. Third, the conference shows participation, since participants affected by policies have some voice in those policies. Fourth, the conference shows personalization--since its educational experiences are related to participants needs, aspirations, and rights.

It is truly a tribute to Lee Cochran that he, 19 years ago, designed the prototype of an educational experience which the rest of us are only today recognizing as a model for education in the future. He showed, and still shows, tremendous insight and creativity, and we owe him a large debt.

And for the actual implementation of this 19th conference, I want to note the debt we all owe to the Iowa Committee, the Planning Committee, the Okoboji staff, and to each other for making this conference happen.

And so, after five and one-half days, the Lake Okoboji Educational Media Leadership Conference comes to an end--the same unsettling, questioning, and probing manner in which it began.

But as I said before, all that can end now is the five and one-half days at this place with these people. What must begin now is the incorporation of what we have learned in this conference into the way we think and behave. For it is incumbent upon us, as leaders, to be proactive participants in the future--to help make the future happen, to set goals for the future, and to move deliberately toward them.

I look forward to all of us making our future together.

Thank you.

* * * * * *

Sixth General Session continued

All delegates were given a certificate of attendance at the 19th Lake Okoboji Educational Media Leadership Conference.

The Chairman of Rest and Nit-Picking, Wesley McJulien, returned his badge of office to the co-chairmen.

The Co-Chairmen, Richard Hubbard and Robert Irvine, were given an ovation for their management of the conference. They returned the Okoboji gavel to William Oglesby of the Iowa Committee who declared the 19th Lake Okoboji Conference adjourned at 9:45 a.m.

* * * * * *

FINAL STUDY COMMITTEE REPORTS AS REVISED:

THE FUTURE OF SOCIETY - 2002 A. D.

GROUP I
Committee Members:
Thomas Lee, Chairman
Warren Boyd, Recorder
Clement Chow
Warren Fry
Roy Moss
William Price

I. INTRODUCTION

An analysis of Instructional Technology's future is dependent upon the future of the society. Prominent futurists are predicting an improved world predicated on certain conditions. Lester Brown writes in the FUTURIST: "If there is less 'here' and 'there', less 'we' versus 'they', men will tend to find that 'We are all here', interrelated, independent and thereby compelled to cooperate to survive." (4, p. 229)

This report, an overview of our society in 2002, is a means of establishing a time frame. This study of the future is organized under three major areas: (a) World Village, (b) Society, and (c) the Individual.

II. WORLD VILLAGE

Futurists refer to our world as <u>one</u> community. Advancements in communications, transportation and other forms of technology are forcing us to recognize that our problems are <u>global</u> in scope. A new system of priorities will emerge.

It is hoped that the world governing organization will be a representative body established to arbitrate differences between nations and protect global concerns which might be contrary to nationalistic motivations.

Major developments will include:

A. "Increasing need for regional and worldwide regulations for:

1. Arms
2. Technology
3. Pollution
4. Trade
5. Transportation
6. Population
7. Resources Utilization." (9, p. 23)

The world government would include, for example, an International Technology Assessment Board, an agency which would oversee technological implications of the above in addition to outer space, nuclear reactors, genetic engineering and brain research.

B. Decreased dominance by single nations. This would evolve from the emergence of new intermediate powers (nations) and some decline of major powers.

World government necessarily will withhold certain freedoms from individuals and nations, hopefully only as they pertain to world survival. Nations will still exist--with previously established cultural patterns--but the trend will be toward an integrated culture utilizing common forms of communication, including a common language or lingua franca.

In addition to the world governance system, there is another factor to consider--the multi-national corporation (MNC). It is not political such as the nation-state; it is economic. Even now, the MNC is a definite force. For instance, "ITT has far more employes overseas than the U. S. State Department. Standard Oil's six-million ton tanker fleet is half again as large as that of the Soviet Union. IBM's research and development budget is larger than the research budget of all but a handful of nation-states." (5, p. 24)

One way to show the size of today's MNC's is to compare their gross annual sales with the nations' gross national products. Using 1969 and 1970 figures, General Motors ranks 23rd among the nations with $24,300,000, immediately ahead of Switzerland ($20,480,000), Pakistan ($17,500,000) and South Africa ($16,690,000).

Other MNC's in the "top 100" include Philips Electric (69th), British Petroleum (71st) and Nippon Steel (83rd). Nippon Steel, for example, ranks above Morocco, South Vietnam and Saudi Arabia. (5, p. 24)

III. SOCIETY

Society is defined as a group--or groups of people within the World Village--cooperating toward common goals.

"Man is now creating a central nervous system for the entire world, linking its diverse and distant parts directly to one another." (4, p. 230) Hopefully, a portion of this system will insure the World Village becoming a better place in which people can live. As members of this all-encompassing society, world citizens benefit from positives and suffer

from its negatives. Equality of all people is essential. People will receive "not only enough food to fill the caloric needs but also the right kinds of food to prevent malnutrition and insure full physical and mental development." (4, p. 235)

Group 1 Chairman, Thomas Lee, reports

The minimum standard of living would not just allow for equal distribution of food products but would also include sufficient educational services and basic health services for everyone. To achieve this goal, mankind needs to develop a social ethic which emphasizes economic and demographic stability. This social ethic may replace values built into our system--e.g., "planned obsolescence," "growth is good," "a bigger and better mousetrap," and the "sanctity of motherhood."

The trend towards 2002 appears to contain not a loss of individuality as many seem to fear but a new style of humanism. The basic tenet of this ethic is the desire to survive and improve the human condition. A subject of technology and a resident of technopolis, man will control the sciences to reap its fruits for the improvement of the World Village, not its destruction. The leveling of national economic and military power and available natural resources will preface the decline of super powers and the rise of disadvantaged peoples. An example of a rapidly rising nation is Japan.

Directional control of this potential monster--technology--is of utmost importance to fulfill the humanistic rights and responsibilities of citizens.

Another trend in 2002 may be the peaceful coexistence of counter-cultures and alternative cultures. The traditional home and family units as we know them may not exist. This will clearly affect the educational style and responsibilities in the future.

IV. THE INDIVIDUAL

The individual will be the building block of the World Village and Society. As such, he/she will be affected positively and negatively by the trends and projections above.

A. The individual of the 21st Century will be a flexible, informed social, tolerant and--above all--humane person.

1. The flexibility will be necessary due to frequent moves, job and/or vocational changes, and it will reflect the rapid changes in Society. Education should help individuals understand the change process. Also education should prepare the individual to be a proactive change agent, to the best of his abilities and interests.

2. Greater amounts of information will be made available to him. Based on his critical considerations, he must take what information is needed, analyze it and arrive at a decision. Information technology will be a prime catalyst in getting the information to the people in rapid, usable form. Education must supply the training in critical thinking.

3. The individual will be a more social being, operating on a horizontal plane and motivated by a desire to be useful. "Horizontal plane" represents a divergent format; its operation will mean the weakening of "vertical operation" (e.g., the bureaucracy and/or social climbing) prevalent today.

4. The tolerant individual is a prerequisite for equal rights and diversity. His neighbors in the World Village will come from far and wide.

5. Humaneness--as much as tolerance--will be needed in 2002. At man's current stage of development, Ashley Montagu says that man is a "frightfully knowledgeable monster who doesn't know what his knowledge is for. But what his knowledge is for, his evolutionary history tells us clearly; it is to live as if to live and love were one.

"This is what genuine education should be all about. This is what we should be learning in our colleges and universities, the scientific facts and the history of the manner in which they were discovered. This is the information, knowledge and the result of very detailed research gathered by scores of thousands of investigators which we can now put together and see clearly what it really means. It means man actually is born to be a lover, to be a cooperator, in spite of Konrad Lorenz... Robert Ardrey and Desmond Morris and company." (117, p. 37-38)

B. Rights

The right to bear arms will be limited or eliminated, due to increased equality, population pressures and the lack of the threat of war.

The right to own land will be taken away from individuals by the government. Land, like the air waves, will belong to "the people" and will be regulated by centralized control--probably as high as the world level. This would include agriculture, construction, water, fertilizers, pesticides, etc.

Privacy will be threatened. Privacy must be strengthened due to the growing, burgeoning population. Centralized government records keeping and controls will present severe dangers. Technology will be a definite factor. The computer and the cable communications devices bringing your lessons, news and bills into the home can also invade the home's privacy by returning information to the government.

Individuals will have equal rights regardless of sex, nationality, race and age.

Freedom of expression and other basic freedoms will remain intact and hopefully strengthened. The freedoms will be respected by the world government, based on its tolerance of diversity.

Education must create awareness of their rights in individuals, and it must instill respect for these rights in those in control.

C. Responsibilities

The individual is responsible for the successful operation of the society and the World Village. Without his/her cooperation and support, the entire system will cease to exist.

The world citizen is required to support the regulation of the society, although recourse is always the right of the individual.

The individual, as a member of a group(s) in the society, is also responsible for the funding and support of all the services in that society; e.g., doing his part to keep the system running.

As best he can, he must realize the overriding importance of the world order compared to his personal needs and desires.

The information-rich society of 2002 requires the individual to update his personal reservoir constantly. Only by being well-informed will the individual be able to operate effectively as an active participant. Participation in government is, however, optional.

Education must create awareness of their responsibilities in individuals and instill respect for the rights of others, the environment, the world social order and fellow world citizens.

What might tomorrow's society be like? Science fiction writers have speculated in their works and two themes predominate --Utopia and Dystopia. Their characteristics are outlined in Table 1, taken from the FUTURIST, June 1972. ("Utopia and Dystopia in Contemporary Science Fiction," by Lyman Sargent; p. 93) See page 37 for Table 1.

The Change Forecast is a combination of observations--looking into the future at different points in time. Table 2 provides summaries of several recent forecasts. See page 38 for for Table 2.

V. CONCERNS

A. In addition to linguistics, what kinds of signs and signals should technology provide to enhance global communication? How can technology facilitate and supplement human functions rather than replace them? Technology is capable of disrupting vital traditional institutions such as home, church and school. Therefore, technology is responsible for providing suitable alternatives. What are these alternatives?

B. In a society which has changes its emphasis from agricultural to industrial, to service to informational, how will we provide the training in critical thinking, informational strategies necessary for the individual to function effectively in that society?

C. Technology provides the ability to carry out many of life's activities in the home, e.g., conducting business, entertainment and education. What are some of the effects this could have on the interpersonal relationships?

TABLE 1

TOPIC	UTOPIAS	DYSTOPIAS
Time	No generalization possible except that they are overwhelmingly in the future.	No generalization possible except that they are overwhelmingly in the future.
Place	No generalization possible.	No generalization possible.
Human Nature	Man seen as malleable. Perhaps some will always be seeking a better way of life.	Man is infinitely malleable to science fiction writers. No generalizations possible.
Degree of Perfection	Show almost mechanically perfect societies.	None.
Conformity and Non-Conformity	Non-conformity is stressed (often within a larger conformist framework). Individual differences are recognized and encouraged.	Probably the most obvious characteristic is the emphasis on conformity.
Emotions and Irrationality	Emotions are generally treated as important but within a larger, strongly rationalistic milieu.	Ambivalent. Some strongly emphasize man's rational side; others, his irrational side. Both controlled or manipulated.
Value-System	Only generalization is efficiency.	Only generalization is efficiency.
Equality	Usually stressed, no economic differences - high status usually goes to intellectuals	Usually a rigid caste or class system.
Socialization System	No generalization possible. See below.	Controlled. See also below.
Religious System	Religion usually gone.	Rare, but usually government controlled or controls government.
Educational System	Rarely discussed. Usually very free.	Rigidly controlled.
Family System	Varies widely with tendency toward community responsibility for children.	No generalization possible.
Sexual Relations	Varies widely with strong tendency to promiscuity.	General promiscuity encouraged, but with a minority emphasizing sexual control.
Illness	None.	Generally not discussed. See article.
Death	Voluntary euthanasia often available. Death rarely stressed. Ambivalence.	Voluntary euthanasia often stressed. Rituals only rarely.
Crime and punishment	Almost non-existent.	There is little crime in dystopias, but what little there is is treated harshly.
Science and Technology	Surprisingly there is little discussion of science and technology even though there are innumerable new machines easing life.	Rather similar to the utopias. Much change but little discussed.
War and Military	None.	Ambivalent. Non-existent in many. The basis of society in many.
Recreation and Entertainment	Although most of the utopias are leisure-based, the writers seem to assume that almost all varieties of entertainment have already been invented.	Little.
Art and Aesthetics	Very important. Major part of leisure time.	Little.
Economic System	Vague. Automation has solved problems of security. Machines do almost all work. Goods available in abundance.	Various. Often, government controlled. Often, rampant monopoly capitalism. Consumer oriented society common. Also extreme poverty common.
Rural Urban Ratio	Urban.	Urban.
Political System	Vague. None or run by intellectual elite.	Dictatorship in one of many forms.
Change	To system-evolution. Within the system--acts of outstanding individual.	To system-evolution. Within the system--acts of outstanding individual.

CHANGE FORECAST

SOURCE FROM WHICH ADAPTED	CURRENT TREND	PROBABLE TREND 2002	ANTICIPATED TREND PAST 2002
CBS Scientist Timetable (Burton Benj[illegible] exec. producer in interview with UPI reporter p. 2 FUTURIST Jan Feb 1967	Biological agents to destroy enemy's will to resist Artificial/electronic organs	Primitive forms of life in laboratory	Drugs to raise level of intelligence Human brain linked with computer Control of aging to extend life span 50 years
Arthur Clarke's Timetable (Profiles of future Arthur C. Clarke, Harper & Row as reported p. 15 FUTURIST, Jan Feb 1967)	Space Lab, lunar landings, planetary landings Nuclear rocket Translating machines Personal radio Electric storage (efficient economical) Cetacean languages Exobiology Circuity waves Weather forecast reliability Central data storage with wide access retrieval Physical theory re-formulated	Colonizing in space Interstellar probes Artificial intelligence Logical languages Robots Contact with extra-terrestrials Fusion power "Wireless energy" Sea mining Cyborgs Time perception enhancement Control of heredity Sub-nuclear structure Controlled thermonuclear power Self-replicating molecules Off-shore mining (other than drilling) Weather control limited but within reasonable cost Synthetic generation of protein for food Increase psychotic case amendable to physical or chemical therapy Drugs to raise intelligence Man-made symbiosis for direct electro-mechanical interaction between brain and computer Chemical control of aging process	Gravity control "space drive" New light speeds Meet with extra-terrestrials Machine intelligence exceeds man's world brain Space mining Transmutation Planetary engineering Climate control Astronomical-engineering Artificial life Immortality Space, time distortion Education by direct information recording on the brain Long duration "coma" for space travel Telepathy/ESP in communication
Developments In Space Forecast by Delphi Experts (p. 129 FUTURIST Dec 1968)	Orbital rendezvous Satellites for weather prediction Lunar landing & return Rescue of stranded astronauts Laser communication readied Manned space station Reusable booster/launch vehicle Manned lunar station Maneuverable orbiting Reusable spacecraft	Re-execution of critical experiments in space (as in Michelson Morley), speed of light, gravity Permanent base on moon Lunar atmosphere for humans Deep space laboratories for high vacuum, zero-8, space research Landing on Mars Probes out of solar system Manufacturing of propellants on moon Global ballistic transport	Landing on Mars Base on Mars Long, duration coma Non-rockets space drive Scheduled commercial traffic to lunar colony Space hydrogen ram jet Military force on moon Pulsed nuclear propulsion Radiation immunization Sweeping up at earth-trapped radiation zones
Coming Decline of the Classroom, a review of Campus 1980 (p. 37, FUTURIST Apr 1969)	Colleges and universities libraries and laboratories	Xerographic facsimile transmission Using satellites to obtain global scope	Computers common in homes
What Computers May Do Tomorrow -Joseph Martino (p 135 FUTURIST Oct 1969)	Traffic flow computer directed Patient monitoring in hospitals Widespread computer assisted instruction Computer controlled commercial plane landing Pocket computers	Majority of doctors have computer terminal for consultation Home instruction with computers Income recording Labor reduction to 50% because of controlled automation Obsolescence of books for general practical information Automobile auto pilots	
Scientific Breakthroughs Forecast by Delphi Experts (p 125 FUTURIST Dec 1968)	Economical desalination of sea water Fertility control Lightweight synthetic materials for construction Automated language translators Organ transplant or prosthesis	Implantation of artificial organs made of plastic and electronics Personality change with non-narcotics accepted and in use Lasers in X and gamma spectrum	Breeding of intelligent animals (apes, cetaceans) for low-grade labor Two-way communication with extra-territorials Chemical elements from "building blocks" economically feasible Gravity modification control

D. Present forms of educational institutions cannot be responsible for meeting all educational needs. Who will provide and control alternatives required to meet these additional needs?

E. The above statements are but examples of concerns held by the committee members.

"If you can look into the seeds of time,
And say which grain will grow and which will not,
Speak then to me..."

Macbeth

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FILMS:

Future Shock, SCA (MGHT-1972) 42 min color

Games Futurists Play, SCA (MGHT-1968) 26 min color

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EDUCATION AND CURRICULUM TRENDS

GROUP 2
Committee Members:
C. J. Hughes, Chairman
Christa Montgomery, Recorder
S. Barton Bennett
John Corso
Don Crawford
Arthur Evans
William Koenig
Leroy Mesedahl
U. Frank Rago
Del G. Ruff
Ted Vaughan

I. INTRODUCTION

Education has long been considered an agency primarily concerned with transmitting our cultural heritage. The curriculum of the future, however, will be conceived so as to allow the educational process to become a means toward social and economic change. (1985 Committee of the NCPEA, 1971.)

The committee sought to develop a model for curriculum change and reviewed the literature related to future planning with this task in mind. It was found that studies dealing with educational futurism were mainly concerned with what ought to be or what may be. Little work has been published describing designs or strategies that actually attempted to deal with educational futures in a way that would enable the planner to anticipate possible faulty approaches to learning. Finding little information that had direct bearing on the task, the committee turned to studies that had tangential meaning for it.

(Group 2 Report continued)

II. FORCES AT WORK

Bell (1968) has identified some of the forces at work in the change process:

1. Technology
2. Increased expectations for services from social institutions
3. A post industrial society shift from production oriented to service oriented occupations
4. The relationship between the United States and the rest of the world.

Marien (1970) suggests the following:

1. The growing quantity and complexity or knowledge and ignorance
2. The growing demands for a skilled labor force and a sophisticated citizenry, increasingly raising the minimum level of functional literacy
3. Social and technological change, increasingly requiring lifelong learning and unlearning
4. Leisure, affluence, and increasing access to social position through educational attainment all increasing the demand for educational services
5. Mounting evidence that all people have a far greater capacity to learn than had been admitted
6. Obsolescent institutions requiring personnel retraining. These factors and others identified by futurists now influence and will continue to effect the curriculum of our schools (learning stations). It is our task to recommend a design system that will permit and foster change as societal needs are indicated and further, to provide a "curriculum" that will allow for creating social and economic change.

We have not considered where educational information, etc. will be delivered (i. e., in a schoolroom, in the home via computer, or on a pocket TV receiver while fishing off the shores of Lake Okoboji), since the educational scene as we know it today will undoubtedly be altered over the last portion of the twentieth century.

Group 2 with Robert de Kieffer (2nd from right) as resource person

To establish a frame of reference for our work, we have accepted the predicted trends as developed in the study, Future Social Trends and Changing Values in Society, (Boaz 1973).

Toward the consideration of future potentials in developmental communication processes and the concomitant needs for a systematic approach to social maintenance, a model is provided for clarification in Tables I and II on page 43 and 44.

III. FOUNDATIONS AREA

Any knowledgeable consideration of the learning process, regardless of level or format, e.g., early human learning, machine programming etc., requires a diligent review of foundation areas.

Environment

Concerns data relevant to the effect of environment on human/machine behavior, the extent to which an environment can be modified and the results attributable to such modification.

Definition: All physical, social, cultural & psychological forces impinging upon an individual or machine at any specific moment in time.

Culture

Concerns data relevant to the arts, crafts, tastes, and traditions of a given civilization during a particular time line.

Definition: The influence and process of evolutionary change of the tastes, arts, crafts, traditions of a self-perpetuating group.

Society

Concerns social development data including the present and past utilization of component processes, i.e., technology, education, politics, on a local, regional & national level. (This information might provide a basis for prediction of a world society, although such a society does not yet exist, i.e., there is an American Society and a Western Culture.)

Definition: A logical arrangement of group behaviors originating and organized within a specific physical environment and location under a given organizational pattern and governmental arrangement.

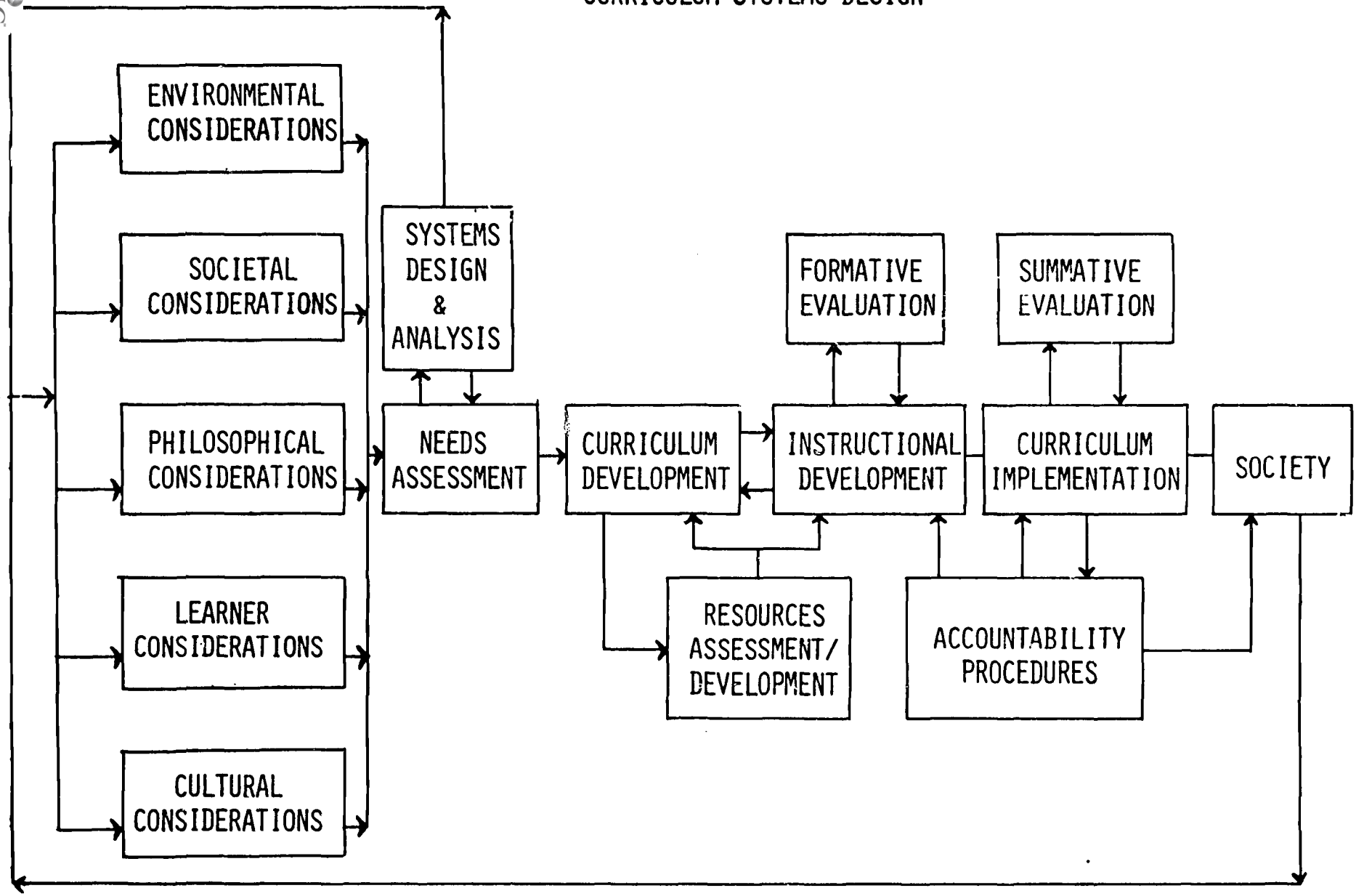
CURRICULUM SYSTEMS DESIGN
ENVIRONMENTAL CONSIDERATIONS
SOCIETAL CONSIDERATIONS
PHILOSOPHICAL CONSIDERATIONS
LEARNER CONSIDERATIONS
CULTURAL CONSIDERATIONS
SYSTEMS DESIGN & ANALYSIS
NEEDS ASSESSMENT
CURRICULUM DEVELOPMENT
FORMATIVE EVALUATION
INSTRUCTIONAL DEVELOPMENT
SUMMATIVE EVALUATION
CURRICULUM IMPLEMENTATION
SOCIETY
RESOURCES ASSESSMENT/ DEVELOPMENT
ACCOUNTABILITY PROCEDURES

FIGURE 1

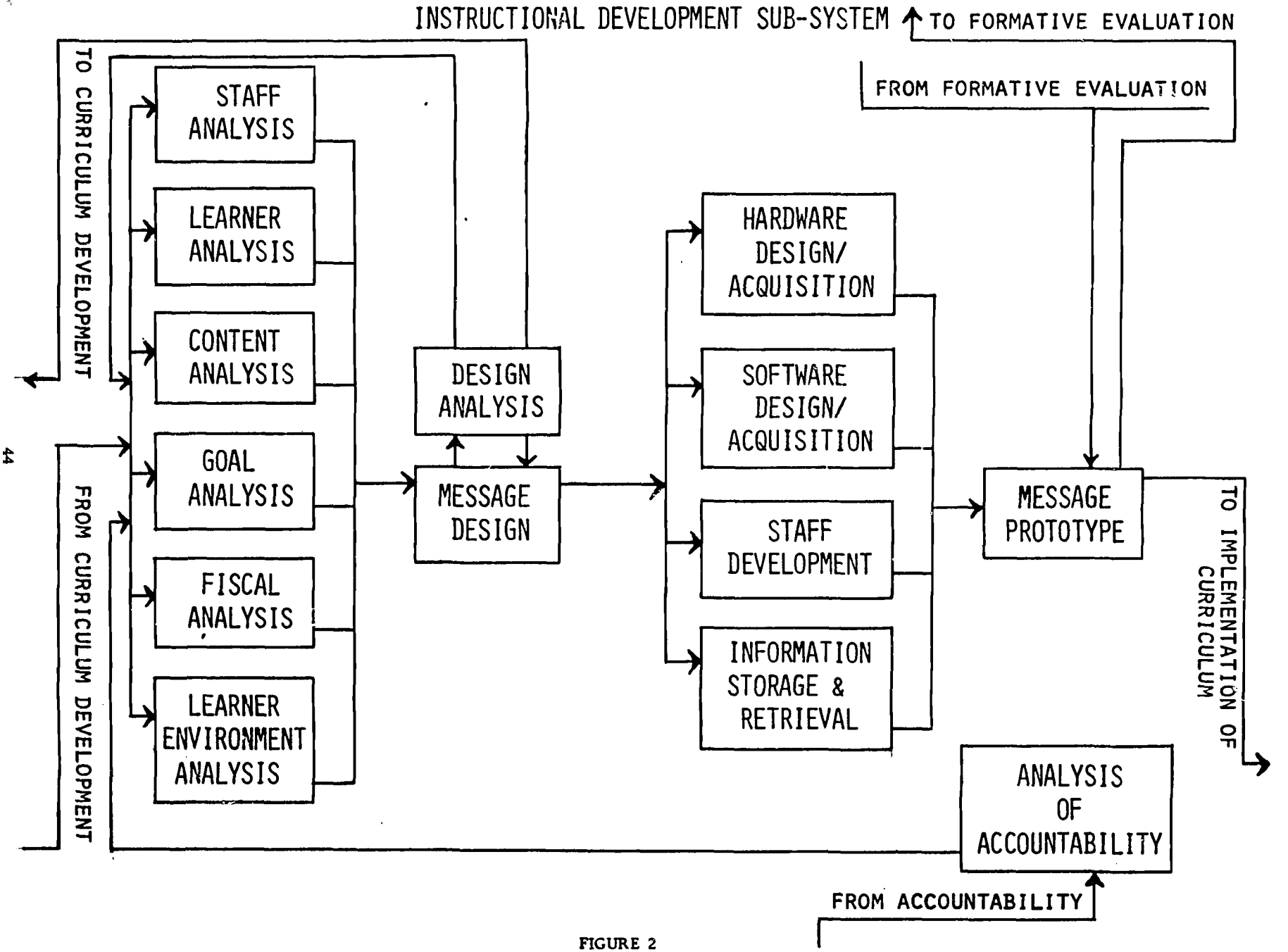
INSTRUCTIONAL DEVELOPMENT SUB-SYSTEM
TO FORMATIVE EVALUATION
FROM FORMATIVE EVALUATION
TO CURRICULUM DEVELOPMENT
FROM CURRICULUM DEVELOPMENT
STAFF ANALYSIS
LEARNER ANALYSIS
CONTENT ANALYSIS
GOAL ANALYSIS
FISCAL ANALYSIS
LEARNER ENVIRONMENT ANALYSIS
DESIGN ANALYSIS
MESSAGE DESIGN
HARDWARE DESIGN/ ACQUISITION
SOFTWARE DESIGN/ ACQUISITION
STAFF DEVELOPMENT
INFORMATION STORAGE & RETRIEVAL
MESSAGE PROTOTYPE
TO IMPLEMENTATION OF CURRICULUM
ANALYSIS OF ACCOUNTABILITY
FROM ACCOUNTABILITY

FIGURE 2

Philosophy

Concerns the patterns of group leadership and behaviors resulting from ethical, moral, and spiritual inputs within a given cultural and social context.

Definition: An ethical-moral set of guidelines for intra-organizational behaviors, often loosely catagorized into camps such as existentialism, pragmatism, Calvinism, etc.

Learner

Concerns data about the specific individual (person) and/or machine (system) and the relationship of this component to its domain of influence.

Definition: Any system or organization capable of information storage/retrieval and/or behavior modification resulting from data input and/or output.

From data obtained from the foundation areas, educational planning can be organized systematically. Requisite to such planning is the development of a set of needs. These needs are often referred to in terms of skills such as reading, math comprehension, or citizenship qualities. Donald Michael suggests other areas that would also correspond to a needs assessment. Michael writes that we must educate for the feelings, the self, the emotions, "...we must educate for empathy, compassion, trust, nonexploitiveness, nonmanipulativeness, for self-growth and self-esteem, for tolerance of ambiguity, for acknowledgement of error, for patience, for suffering." (Michael, 1968)

Michael further suggests that we must put vastly more emphasis on educating certain intellectual abilities, preparing the individual to perceive life in the long term, to think in terms of probabilities rather than certainties. Michael implies the need for society to consider new value structures which would provide for a greater likelihood of social survival. (Michael, 1968)

It is important to treat needs in their broadest sense. That is, communication systems of the future will not "teach," say "mathematics." System development must consider other needs of the learner such as his health, socio-economic position, and environmental context and the relationship of such needs to the learner's receptivity to certain information packaging and delivery techniques.

The structure of a communication system or network comprises what is termed "curriculum." The functionality and purpose of such a network depends upon the input data run through the system. Therefore, curriculum may be a system from which a specific skill can be

obtained or it may provide alternative avenues to a more existential approach to problem solving. In any case, curriculum development, as a component of our system, contains certain limitations without which a system no longer exists, i.e., (1) time, (2) resources (including content), (3) objectives and overall goals, (4) the learner system or organization involved, and feedback capability.

There is an interaction process between curriculum development and instructional development. Instructional development provides the "energy" or fuel which transforms the curriculum from a state of inanimate structure to that of a process. Specifically, instructional development is concerned with learner (audience) analysis, the design of materials and preparation of educational sub-systems (software/hardware), in-service training of personnel, information storage and retrieval and validation procedures. Validation is concerned with message reliability/validity and cost effectiveness will be accomplished by outside agencies and is, therefore, represented by an independent module.

A philosophy must be developed from data obtained from the considerations made earlier in the system. The educational philosophy may not conform to the philosophical positions found in the vicinity of the school. This is particularly true with regard to the present institutional structure of education and the concomitant placement of "hard" facilities. In this sense, philosophy may have significantly more influence on educational practice in the future, particularly should the "institution" of education no longer exist and learning environments cease to be quantified in the form of school buildings. Obvious social-educational consistencies should result from such physical de-centralization. Also, combining philosophy with learner analyses (needs assessment) mellowed by honest appraisals of available resources will allow the most accurate predictions of instructional outcomes.

The model itself does not generate objectives. This is both an asset and a liability. The beauty of it lies in its inherent flexibility. The model can be applied to any educational question in any time line and in any social or cultural setting. The liability lies in the fact that the user must ask the right questions. This may be the most difficult task facing the future instructional technologist.

IV. CONCLUSIONS

The curriculum of the future will not be a single prepared educational plan. It will need to be a series of processes that can be readily adapted to the individual learner as he exists in his unique learning situation.

A curriculum-based information retrieval system will need to be devised and established to provide direction for the learner's unique needs.

Schools will need to invent new time sequences to fit individual rates of inquiry, accession of skills, and divergent interests.

Schools will become learner centered rather than site centered. In some instances, centralization may be abandoned entirely as evidenced by recent experiments with schools without walls.

Staffing of schools will include generalists, specialists, and information expeditors.

As individuals and society develop new goals, the objectives of the curriculum will broaden and change. This may occur rapidly (possibly daily) as major advances become reality or it may evolve over several generations. The curriculum will be responsive to the needs for individual and the society he lives in.

Curriculum concepts may be expanded to provide continuity of education and re-education which may envelop a learner's entire lifespan.

Eventually society may become the educator as schools as we know them may cease to exist as separate institutions.

V. ASSUMPTIONS

As a point of departure we have accepted the findings as outlined in the University of Southern California questionnaire, "Future Social Trends and Changing Values in Society." (Boaz, 1973) Those that are of particular significance to the study are:

1. The public school will become a community center rather than remain a separate institution.
2. Changes in the educational system will not originate entirely within the schools but will involve lay leaders and politicians.
3. Education will take the lion's share of state and local funding.
4. Higher education will become involved in urban problems.
5. Funding agencies may take over control of education.
6. Schools will change from closed, controlled teaching institutions to innovative experimental open learning and student centered systems.

(Group 2 Report continued)

7. Multi-campus programs and consortiums of institutions will increase.
8. Educational programs for the culturally deprived will proliferate.
9. There will be extended formal pre-school and post secondary education. Social as well as technological trends in a fast changing world will increasingly require life long learning and unlearning.
10. Affluent families will have increased access to information in their homes due to advances in technology.
11. Single teacher classroom will change to differentiated staffing, team teaching, guest lectures, and other different patterns.
12. Student teacher relations will change from the teacher as authority to a senior facilitator working with junior colleagues, who are students.
13. Teachers, because of frequent changes in education, intersperse work with frequent periods of retraining.
14. Flexible scheduling, life-long learning and individual pace will prevail.
15. CAI will be in general use by educators.
16. Use of home terminals for education will increase.
17. There will be more independent study to fit individual needs.
18. Use of chemicals, drugs, and symbiosis to improve the learning process is undesirable.
19. There will be changes in requirements and grading within the next twenty to twenty-five years.
20. Required classroom attendance will be replaced by optional participation in colleges and universities.
21. Grades and degrees will tend to disappear and evaluation of students will be done by independent testing agencies.
22. Institutions other than schools will serve as credentialing agencies.
23. Internationally owned communication satellites will be used for mass communication.
24. Data will be assembled on the use of new technologies and on the extent of innovation practiced.
25. Higher education will have an increased role in policy research and will make it available to top policy makers in government.

These assumptions are further substantiated in Bermann's New Priorities in Curriculum, pp. 16-18, Charles Merrill Publishing, Columbus, Ohio.

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STRATEGIES FOR IMPROVING INSTRUCTIONAL TECHNOLOGY

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I. INTRODUCTION

For the purpose of this report, strategies for instructional technology have been divided into two categories: micro and macro.

A macro strategy is achieved by employing many micro strategies. As an example, a positive legislative vote is needed to get more money for education. The idea of pressuring the legislature for a positive vote is a macro strategy. The act of lobbying a legislator would be a micro strategy in this case.

The first section of this report deals with situations involving macro strategies. The second section addresses itself to micro strategies. All strategies mentioned are but samplings of kinds of strategies to improve instructional technology

II. MACRO STRATEGIES

A. Management/organization is defined as the purposeful arrangement, control and monitoring of resources and the sequence in which they interface to achieve the desired end or function. Prerequisite to undertaking this strategy, a plan of operation and a description or functional conceptualization of the strategies and outcomes are necessary. A major contingency of the quality of this strategy is the quality of leadership in the target institution. This managerial/organizational leadership can be manifested by the instructional technologist, the dean of instruction, the principal, the superintendent of schools or the department chairman.

A management strategy to institute a learning resource center would be the following:

1. Analysis of services to be provided.
2. Division of enterprise into manageable sub-components and sub-tasks.
3. Establishment of time line (perting out activities)
4. Delegation of sub-tasks and the authority necessary to achieve sub-tasks effectively and efficiently.

B. Authoritative analysis is a process of engaging acknowledged experts in the identification and analysis of relevant problems. This activity may also require or request suggestions or solution strategies to resolve the identified problem. Among the outcomes of this strategy is a report submitted to the sponsoring agency, identifying the problem areas with suggested solution(s) at varying levels of specificity.

Requisite for this strategy are analysts with relevant credibility and expertise, some members of which possess communication skills appropriate for informing (and perhaps persuading) the target audience(s). A sponsoring agency and the resources to undertake the analysis should also be provided.

An intelligible report and related publicity can be utilized in influencing administrative patterns, legislation and resource allocation formulas in pursuit of implementation of the recommendations.

The effectiveness of this strategy is contingent upon the acceptance and interpretation of that report by the relevant target audiences and the utilization of this report and its recommendations by both the advocates and consumers. The report of the Commission on Instructional Technology, titled To Improve Learning, (1971), and the joint AECT/AASL Standards for School Media Programs, (1969), have been used to support the initiation of fiscal legislation designed to adequately equip and staff elementary and secondary schools. Strategies followed here have been the publishing of relevant sections of the report and the standards, contact with legislative committees capable of initiating such legislation, use of report by publishers and producers of relevant resources as a marketing device.

C. Development is the activity of creating or adopting tools and procedures. Appropriate structures evolve through the following processes:

1. Needs assessment.
2. Specification of outcomes.
3. Analysis of content.
4. Analysis of necessary strategies.
5. Development of pilot models.
6. Field testing.
7. Fabrication of final product.
8. Validation.
9. Diffusion.

The quality and effectiveness of this strategy is dependent upon the development activity and the product of that activity. In other words, if you do a poor job you are not going to have a very efficient strategy.

The effectiveness of this strategy is contingent upon the value of each development activity.

Some examples of development strategies are Sesame Street and Plato, which is a computer-based programed instruction project at the University of Illinois. A strategy which could be used to implement development would be to adapt or adopt the procedures of the developers of documented and validated programs noted for success.

D. Judicial Ruling is a decision or statement of a judicial body such as the Supreme Court or other federal or state courts. Such decisions would rule on equity of resource allocations, legal aspects of school operations, and equal educational opportunity.

Prerequisite to this strategy is initiation of a suit. An example is the Hobsan vs. Hansen (1967) where schools in Washington, D. C., were not receiving an equitable allocation of resources to purchase the appropriate materials necessary for their programs. The judicial decision invoked the equal opportunities provision of the U. S. Constitution and Washington, D. C. schools were subsequently directed to initiate a more equitable distribution of funds. As a result of this ruling, the schools were able to purchase audio-visual materials and employ necessary personnel to implement the educational programs.

Group 3 tries to find the answers

Effectiveness of this judicial ruling is contingent upon legislative and executive reaction. As a result of a court decision, legislation may be initiated which very specifically addresses the problem that the court has identified. Alternatively, the legislature may take action to counteract the court's decision pre-empting the perogative of the court to make judicial decisions. In terms of executive action any judicial decision is dependent upon someone carrying it out. Action to implement the decision could be carried out by the executive of the federal, state, or local governments or by an administrative agency, i.e., the Federal Communications Commission.

Success of this strategy is also contingent upon the public response. An instance in point is the 1954 desegregation decision, Brown vs. the Topeka Board of Education, in which the Board was directed to integrate the schools with all deliberate speed.

E. Evaluation in education today involves testing and measurement. Within that context are included testing for descriptive and comparative purposes, and assessment by accrediting agencies regarding whether or not the attributes of a school or program comply with specified criteria.

Data for such evaluation are gathered through the following:

1. Obtaining requisite information.
2. Providing information in a form that is intelligible to the decision-maker, and is facilitative in the decision-making processes.
3. Delineating, i.e., placing values or weights on alternative consequences of decisions.

A common process of these evaluation strategies is the establishment of criteria for the assessment of an entity, i.e., good, bad; right, wrong; superior, inferior; efficient, inefficient; effective, ineffective; etc., and the subsequent comparison of the entity(s) involved with the relevant criteria.

A strategy for selecting or pursuading a business officer to purchase an instructional package, or a principal to initiate an audio-tutorial laboratory for the teaching of laboratory skills, would involve the collection of relevant information (i.e., research reports), projecting costs (human, fiscal, time and other resources) and subsequent benefits (in terms of student learning, facility, utilization, teacher productivity, dollar savings).

Presenting this information in an understandable manner, via prose, visuals, slide tape, press releases to the decision-maker and his constituencies (school board, taxpayers, board of regents).

An example of an evaluation report are the product reviews of the Educational Product Information Exchange (EPIE). EPIE exercises judgments as to the safety, effectiveness and efficiency of educational hardware and software.

The effectiveness of the evaluation strategy is contingent upon the:

1. Credibility of the evaluator.
2. Validity and reliability of the evaluation design.
3. Intelligibility of the evaluation report.
4. Receptivity of the decision-maker and his constituency.
5. Feasibility of taking action consistent with the evaluation findings.

F. Legislation is essentially the enactment of statutes by federal, state, and local legislative bodies. Prerequisite to this strategy is the preparation of a bill to gain legislative support.

The effectiveness of this strategy is contingent upon executive enforcement of the legislation.

Possible methods to implement legislative strategy would include:

1. Utilize the lobbyists of professional associations to influence legislators.
2. Exert pressure on legislators through direct contact by professional association members.
3. Develop and submit proposals to legislators for introduction as bills.
4. Attend administrative rule-making hearings prepared to give testimony in support of your position.

G. Personal service strategy refers to employing facilitators who possess unique skills and abilities. These persons carry out functions directly related to institutional goals.

Prerequisite to this strategy is the existence and identification of individuals or teams who possess these skills and abilities. Another prerequisite is an administration or board which is receptive to using the skills and abilities of the facilitator.

The facilitator may be a consultant from outside the institution or agency or from within. It could be an instructional technologist, media specialist, psychotherapist, instructional developer, bibliotherapist, or evaluator.

The effectiveness of this strategy is contingent upon the quality of interpersonal relations, expertise, and effectiveness of the facilitator and the receptivity of the client.

Possible methods to implement personal service strategy would include:

1. Call upon the services of an educational psychologist to improve your interpersonal communication skills vis-a-vis the client.
2. Utilize the expertise of an evaluator outside your organization to determine the success of your program.

(See page 56 and 57 for chart of sample strategies.)

III. MICRO STRATEGIES

A. Introduction

Tomorrow will primarily depend upon what humans do today. To a large extent, the role of instructional technology will be contingent upon what instructional technologists make it.

SAMPLE STRATEGIES FOR IMPROVING INSTRUCTIONAL TECHNOLOGY*

Routes	Prerequisites	Contingencies	Examples
Management	Defined workable structure	Institutional leadership	Learning Resources Center University without Walls Philadelphia Parkway School
Authoritative Analysis	Analysts and Commission	Acceptance and interpretation of the analysis, consumer and advocate utilization	Carnegie report on IT Commission on IT (McMurrin Report)
Development	Development process	Quality of development Developed system	Sesame Street SWRL Kindergarten Program Bell Telephone First Aid Course
Evaluation	Evaluation process	Evidence and Recommendations	EPIE EEO Survey National Assessment Program Accrediting Agencies
Judicial	Statute or Constitutional provision and claim	Legislative, executive, institutional and public reaction	Supreme Court Ruling Circuit Court Ruling State Court Ruling
Legislation	Legislative majority	Executive enforcement Judicial decision	Federal law State law Local law Administrative ruling

SAMPLE STRATEGIES FOR IMPROVING INSTRUCTIONAL TECHNOLOGY (continued)

Routes	Prerequisites	Contingencies	Examples
Media and Technique	Medium and message	System quality Message-media effectiveness	Micro-teaching Films Cable TV Computer Systems Audio cassettes Books Microforms Programed instruction
Personal Service	Knowledge-embedded-individual and receptive client	Individual expertise Interpersonal relations	Education extension agent Management consultant Instructional developer Biblio-therapist Evaluator Educational psychologist
Diffusion	Reliable defined procedures Developed systems Institutional organization	Quality of systems	Teacher education AERA training session Okoboji process Leadership Training Institute Sesame Street Electric Company IPI (Research for Better Schools) ERIC EPIE
Learner initiated activities	Lack of system for student expression Adequate system for student expression	Receipt and acceptance by the institution	Student demonstration Student request submitted through channels

The primary focus of this section of the report is to suggest sample strategies. These strategies are designed to improve the effectiveness of the instructional technologist as well as any individual involved in facilitating learning.

The accuracy of the projections to the year 2002, depends upon the accumulative synthesis of the days and years before. (Hartsell, 1973). Martin Buber suggests, How do I know what tomorrow will be - because life and actions are in the here and now? (Hemphill and Rosenau, 1973).

It is imperative that we plan for the future by developing and exercising the facilitating role that we play as instructional technologists.

B. The Instructional Technologist as Facilitator

The effectiveness of the instructional technologist as a facilitator of strategies and logistics in educational development and instructional system is directly related to his level of acceptance by the power structure in which he works. Whichever tasks the facilitators deems necessary to perform will require the passive or active sanction of the authoritative structure of the institution.

Strategies to obtain the necessary sanctions to function at the desired level and to move on to the terminal objective depend upon the institutional politics, the personalities involved and the goals sought.

There are two major areas on which we can focus to help the instructional technologist become a successful facilitator in the field. Regardless of the job description or responsibilities, we must assist the technologist in reaching a level of recognition and acceptance as an effective contributing member in the decision-making process. The holding of a position of authority does not assure that the instructional technologist is an effective facilitator. By the same token, it is recognized that one must have the authority to make decisions and to be accepted as having the necessary skills and resources to become an effective facilitator. Therefore, being in a decision-making position may be advantageous in helping others reach their goals in the instructional process.

The second area focuses on assisting the facilitator to acquire and to employ strategies which would allow successful interaction with clientele, peers, and supervisors. Acceptance as a valuable resource by this group is of critical importance. Success should not be expected until acceptance has been attained. These strategies would be categorized primarily as interpersonal relationship skills (human management) which require a strong background in social understandings.

(Group 3 Report continued)

Strategies employed to assist the facilitator might be categorized as follows:

1. Enabling Strategies - techniques which will develop a level of acceptance as a decision-maker.
2. Operational Strategies - techniques which may be employed to manage resources, people, or objects which will enable the individual to be effective.

Enabling strategies may also become operational strategies, depending upon the goals of the facilitator.

C. Assuming the Facilitator is Competent and Has a Sound Program, the Following are a Few of the Strategies Proved to be Helpful:

1. Enabling Strategies

   a. Identify the decision-makers. Sometimes they may be outside of the established line/staff relationships.

      Example: An assistant superintendent in charge of curriculum may hold the line and authority position but the federal project coordinator may impose dictating or qualifying conditions under which the program must operate.

   b. Watch for opportunities. Be proactive rather than reactive. This requires planning and adequate preparation. "The world belongs to him who does his homework." (James Finn, 1969).

      Example: If a decision-making meeting is to occur, consider potential alternatives in advance. This may necessitate another colleague presenting your idea.

   c. Write out your plan of action. Experience has demonstrated that a document in writing may be torn apart, but once the process is completed, only minor modifications will usually occur. (This is assuming that careful research has taken place in developing the document.)

2. Operational Strategies

   a. Seek out and accept tasks in non-threatening areas. These may be considered the "dirty jobs," but your colleagues will recognize that you are willing to engage in activities above and beyond the "call of duty."

      Example: Physical preparation and scoring of examinations is one area; others include handling convention and conference support, preparing brochures, and providing artwork for research reports.

b. Use the coffee pot technique. Keep a coffee pot as close to your base of operations as possible. This will enhance communication with the staff and stimulate a mood of congeniality.

c. Be low keyed.

Example: Teach them to teach without them knowing it.

d. Never discuss projects in terms of "me," "my," and "I," but rather, "theirs," even if you did most of the work.

Example: If you assisted them in the developing of a project that was funded, give them the credit.

D. Facilitators other than the Instructional Technologist

If instructional technology is to be improved, strategies which increase the effectiveness of all of those involved in facilitating instructional programs will be helpful. The assumption is that the field of instructional technology will be enhanced by successful learning experiences.

There are strategies which encourage teachers to utilize and develop instructional technology. Such strategies include the provision of adequate support services, released time for the development of programs, and encouragement through recognition, evaluation, and remuneration for teachers. Development of courses by faculty may also be encouraged through grant programs which offer support to faculty and require the use of principles and techniques of instructional technology.

Instructional technology may be employed to differentiate loads and class size. In this way individuals involved in instructional programs may be enabled to work more personally with each other.

In-service training programs--particularly where teachers are active participants in planning as well as in execution--can be an effective strategy to develop and improve instructional technology.

Another strategy may be the utilization of a systems approach to learning. This strategy may be implemented by in-service programs, institutional or departmental policies or even employment requirements.

E. The Learner in the Learning Process

Providing for the participation of the learner in the learning process is a potential strategy. Giving the learner alternatives to correlate with varying learning styles encourages effective utilization of mediated experiences.

Another strategy is to place students on committees such as that dealing with curriculum matters. In carrying out such strategies it is important that students be enabled to make meaningful contributions.

Example: Students who have taken courses may be hired to review the curriculum and make recommendations.

Strategies which increase the sensitivity of instructional programs to the characteristics of the individual learner have the potential of contributing to the development and improvement of instructional technology.

F. Awareness of Developments

An awareness of developments in the field of instructional technology and their potentials and effects contributes to its improvement.

Obvious strategies include such "professional" activities as reading journals, attending meetings and conferences, and reading and discussing reports of research.

Opportunities for research and experimentation often exist in local situations. Potential strategies include the duplication of previously reported research studies that have been conducted in different contexts, the execution and dissemination of original research, and experimentation with the utilization of new techniques, hardware, software, and processes.

Another strategy helpful in fostering awareness of developments is the production and distribution of information bulletins (newsletters, tapes, etc.) which disseminate news of educational innovations, successful applications by colleagues, and announcements such as seminars and grant opportunities.

G. Coordinating Strategies

The coordinated utilization of instructional resources has the potential of improving the efficiency of instructional technology.

The resources of an institution, city, school system, or state may be interconnected so that all resources are available to a learner to the limits of technology. Potential techniques include remote retrieval systems, CATV, and satellite communication systems.

The employment of centralized production and/or distribution centers offers considerable promise at local levels as well as the intermediate and beyond. In this area the potential of utilizing and developing the most advanced technological techniques is very real.

IV. CONCLUSION

In this section we have considered a sampling of strategies to develop instructional technology. Most of these strategies can be employed by the Instructional Technologist to function successfully and to raise the effectiveness of his operating level.

This committee gives special thanks to Horace Hartsell, Charles Schuller and Ken Silber for sharing, clarifying and guiding our endeavors.

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* * * * * *

MANAGEMENT AND FUNDING OF MEDIA PROGRAMS

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I. PREFACE

In looking at what the instructional technologist may have to cope with in the future in terms of funding programs and services, alternatives in the areas of SOURCES OF FUNDS, SECURING FUNDS, and the MANAGEMENT OF FUNDS are apparent. The following speculations are offered to the instructional technologist with the admonition that he should be prepared to be involved in the creation of the future.

II. ASSUMPTIONS

Speculations concerning the state of the future were based on the following assumptions:

A. Diminishing resources.
B. Continuing disenchantment with financing education.
C. Increasing emphasis on continuing and expanding education.
D. Increasing competition for financial resources.
E. Increasing concentration of influence in global corporate entities.

These assumptions do not represent all those employed during the course of speculation--only those which provide the foundation from which the others were derived.

III. PROCEDURE

The committee discussed general concerns with and prognostications about the future generally and with education in particular. Using a modified Delphi technique, assumptions were precipitated from which the speculations regarding management of educational funding were developed.

IV. SOURCES OF FUNDS

A. Federal Funding

1. Administration of federal funds will become more efficient and organized.

a. Administration of funds will be in the hands of a single agency.

b. Research techniques will be used to determine the direction and amount of allocations.

c. Dispersions will be projected well in advance.

2. Federal funds will be used as a tool to impose federally established policies on states.

a. National policies in education will be determined by the legislative branch of the federal government.

b. Federal funding will be specialized rather than general.

c. There will be many restrictions attached to federal dollars and great pressure to adhere to time lines and financial reporting requirements.

3. Federal funding will be in the form of a small number of large grants and a large number of small grants with little in between.

a. The federal government itself will spend large sums of money experimenting and researching the process of education itself. . . in developing models.

b. Cooperative projects which show planning among many organizations will be more readily funded than individual projects.

c. Projects will have to assure a high probability of success in order to receive funding.

d. Allocations will be made to the states in large amounts.

4. Other possibilities

a. Administration of federal funds will become inefficient.

b. There will be total withdrawal of federal support of education.

c. There will be fewer dollars for education.

B. State Funds

1. State funds will increase with state control of education.

a. State funds will be supplemented (raised) by means of lotteries and raffles.

b. State funds will be derived from all items presently being taxed (income, sales, etc.) but not property tax.

c. State funds will be derived from additional items taxed such as marijuana, prostitution, pornography.

2. Expenditure of state educational funds:

   a. State funds will be used to support all items presently being funded--salaries, transportation, special education, etc.

   b. State funds will be used to equalize property taxes raised at the local level.

   c. State funds will be used to provide security for school properties, buildings, equipment, etc.

   d. A great proportion of state funds will be used to provide:

      1) Vocational education

      2) Special education

      3) Lifelong education

      4) Recreational education

      5) Trade schools

      6) Community colleges

   e. State funds will be given to business to provide public education in specialized areas.

   f. State funds will be distributed to regional agencies for the operation of educational programs and services on a regional basis.

   g. State funds will be allocated to cooperative interstate agreements and programs.

3. Other possibilities

   a. State funds will be used only to train or educate individuals to meet the needs of the specific states.

   b. State funds will be allocated for specific programs based on established priorities rather than for general educational purposes.

C. Local Funding

1. Funds raised through taxes will be collected directly by the state for reallocation to local schools.

2. Property tax will not be an important source of funds.

3. Funds raised by means other than taxes will be used to supplement the basic educational program provided by the state.

D. Foundations

1. Foundations will form consortiums and allocate their resources in a manner congruent with national priorities.

a. Foundation funds will be combined to support large projects.

b. Foundations will provide funds to the states for further allocation to institutions.

c. Foundations will provide funds to individuals without affiliations to institutions.

2. Foundations will continue to fund projects in areas in which the foundation is particularly interested.

E. Education and Industry

1. Industry will be involved in educational planning.

a. Industry will assist in manpower needs forecasts.

b. Industry will assist in establishing quality control for educational products.

2. Schools will contract with industry to provide specially trained personnel in return for business dollars.

3. Schools will purchase the services of trained personnel from industry.

F. Other sources

1. International scholarships for study or work study abroad will be available.

2. Individuals and organizations will be sought out for donations to educational programs.

V. SECURING THE FUNDS

A. Where to look/whom to ask

1. Responsibility will be assumed by regional consortiums to inform constituents of available funds and procedures for securing same.

2. National and state associations will procure funding information from existing sources and will make this information available to divisional affiliates or memberships.

3. The divisions of the national association will keep their memberships informed of available resources within their specific areas of interest.

4. Financial statements of foundations/businesses will be accessible to the public.

B. How to proceed

1. Person-to-person contact with immediate supervisors, with school governing bodies, with legislators, with foundation personnel, will be required to secure funds.

2. The technique of negotiation will be innovatively employed to needed and expiring resources.

Group 4 solving problems

3. Proposal writing will require great expertise and will perhaps require the hiring of a proposal writing specialist or team of specialists or consultative service.

4. Public relations within the local community will be a necessity to elicit their support of funding projects.

5. Public relations will be based on documented achievement rather than on claims of potential performance.

6. Extensive use of educational lobbyists will be made--either by individual agencies or on a cooperative or shared basis.

7. Individuals and professional associations will become politically active in order to participate in the decision-making process regarding funding.

VI. MANAGING THE FUNDS

A. Budgeting / Planning

1. Budgets must reflect the overall mission of the institution.

2. Budgets will reflect both the objectives of instruction and cost standards for achieving these objectives.

3. Cooperative planning, cooperative budgeting among institutions will take place.

4. Personnel will consume major shares of media budgets.

5. Sharing of facilities or portable facilities will be considered in budgeting.
6. Budgeting will be based on planning, programming and budgeting techniques--the program and need is going to have to come before the budgeting.

B. Spending

1. There will be a large increase in educational funds spent on equipment.
2. A larger portion of budgets will be spent on sophisticated technology.
3. Inter-Agency sharing of programming systems will proliferate.
4. Rental/leasing of equipment will be common and promoted by commercial concerns.
5. Funds will be expended for blanket contracts for copyrighted materials.
6. Funds will be directed to national and international clearing houses for support in various areas of funding and management.
7. Dollars for software will be spent for "indirect" software--i.e., use of materials through a retrieval system rather than direct purchase.
8. Some monies will be expended for the use of resource personnel and systems on an international basis.

C. Accountability

1. Outputs of learning will be concisely measured.
2. Cost effectiveness techniques will be used to insure the optimal utilization of resources.
3. Funding agencies will provide funds, output specifications, and procedures for determining if the output conforms to established specifications.
4. Funds will be utilized in producing goods and services at a pre-established cost.
5. Cost standards will be established for all goods and services produced by recipients of educational funds.

VII. CONCLUDING STATEMENT

It is the strong recommendation of the committee that the "Instructional Technologist" seriously consider these speculations in view of the fact that he must be involved with changes in the future of education and educational funding.

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INSTRUCTIONAL TECHNOLOGIST: A CONCEPT FOR A. D. 2000

GROUP 5
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I. CONCEPT OF AN INSTRUCTIONAL TECHNOLOGIST

> Educational technology is a field involved in the facilitation of human learning through the systematic identification, development, organization, and utilization of a full range of learning resources, and through the management of these processes. It includes, but is not limited to, the development of instructional systems, the identification of existing resources, the delivery of resources to learners, and the management of these processes and the people who perform them.
>
> Its functions are shared by all who are concerned with its purpose--the facilitation of human learning... The educational technology approach has been directed toward expanding the range of resources used for learning, emphasizing the individual learner and his unique needs, and using a systematic approach to the development of learning resources... The field of educational technology makes no exclusive claim to any of these efforts...however [it is unique in bringing all these efforts together in a systematic fashion.] (AVI, October, 1972, p. 36).

From the foregoing it may be inferred that an instructional technologist is a professional educator whose main professional activity consists in performing functions in the field of educational technology as defined herein.* The term instructional technologist as used here is not a job title but rather a description of the functions of one who is a highly trained, professionally competent practitioner in the educational technology field. Further, for the purposes of present study,

*The committee recognizes that the terms "educational technology," "instructional technology," "technology of education," and other similar appellations are subject to different interpretations, and may on occasion reflect differing concepts and philosophies. For the purposes of this study, the terms are used interchangeably by agreement of the committee. This agreement, however, does not imply abrogation by individual committee members of their respective viewpoints or philosophies on this issue.

the term refers to a concept rather than to an individual. It is to be understood and emphasized, that ultimately we must and will face the task of "personification" of the concept.

It is perceived that current applications of the concept "instructional technologist" cover a broad array of instructional and educational functions and roles. At the present time, almost anyone who chooses can claim to be an instructional technologist. The title does not reflect nor imply any particular educational background nor adherence to specific performance criteria. It is therefore recognized that there is a need to describe the instructional technologist in terms of the functions performed.

Signs, omens, and empirically-based predictions of the future of society and education indicate differences occurring in these areas between contemporary times and the 21st century. While the direction and magnitude of difference cannot be precisely ascertained at this time, indications are that considerable change will occur. It has been suggested, for example, that schools as we know them today may no longer exist. Educational systems and processes in the 21st century could conceivably be so vastly different as to make our present day organizational structure and methodology totally obsolete.

The year A. D. 2000 could well mark the realization of "individualized instruction from womb to tomb" with Trump's "no bells" philosophy resulting in the demise of the many edifices which were the 20th century's successor to the 19th century's "little red school house." Some prognosticators foresee total abandonment of a formal school structure and its replacement by instruction in the home via electronic media. Others predict a consolidation of today's schools into regional centers to which learners would go periodically for individual consultation rather than on a fixed schedule. Regardless of whether either or neither of these proves to be the eventual situation, we find it reasonable to accept the fact that change will occur and thus modifications in present day organization, methodology, and operation will result.

As we mentally "leap frog" to the year A. D. 2000 and realize that we cannot accurately specify the nature of the educational system at the dawn of the 21st century, we likewise acknowledge that we cannot be precise as to the requirements for the instructional technologist who will function in an educational system at that time. On the other hand, if we agree that the educational processes of the next century will still be directed toward behavior change, there will still be the need for the instructional technologist as defined herein.

Preparation and training of the instructional technologist described in this study must prepare the individual for a position in the top administrative echelon of the system in which he is employed, regardless of the organizational structure of that system. The committee submits that the preparation and training of the instructional technologist for the 21st century must be such as to enable that technologist to fulfill the functions which the committee considers as likely to be operating regardless of the nature of the situation or system which A. D. 2000 will present.

II. FUNCTIONAL ELEMENTS AND COMPETENCIES OF THE CONCEPT OF AN INSTRUCTIONAL TECHNOLOGIST

In redefining the concept of instructional technologist for A. D. 2000, the committee considered several sources of input. Among these was the JIMS Project (Hyer, Anna L., et al., 1971). We found that no source could be considered comprehensive and inclusive as we perceived what the 21st century instructional systems might be. The final selection of the functional elements of the futuristic concept of the instructional technologist included elements from several sources.

In order to indicate levels of competency, we have applied the terms "user" and "doer." These are not specific levels. The implication is that the instructional technologist of the 21st century will be given various levels of competency regarding these functional elements. As a "user" in a competency, the instructional technologist would be considered consumer only. As a "doer," he would be expected to be competent in functional elements to a much higher level. We consider it expedient and appropriate at this stage to limit description of competency levels to "user" or "doer." It is anticipated that those who actually design the curricula for the training of the 21st century instructional technologist will be in a better position to be explicit as to competency levels. It will be their responsibility to devise curricula commensurate with the needs of the instructional system of the day. Additionally, it is quite possible that the 21st century concept of the instructional technologist will need not only levels of competency herein noted, but will subsume additional functional elements other than those indicated.

FUNCTIONAL ELEMENTS	COMPETENCIES
Management (Doer)	Persons and things
Research (User)	Collates and applies data
Design (Doer)	Instructional systems and methodologies
Evaluation (User)	Results of instructional strategies
Logistics (Doer)	Right things and people at the right time and place
Production (User)	Instructional software
Change agency (Doer)	Dissemination and diffusion of innovation
Communication (Doer)	Technical - social

A. Management. The management function of the instructional technologist includes administration and organization. He would be the administrator of an instructional team--the leader of the learner management process. The final management decisions would rest with him. The instructional technologist would be ultimately responsible for the application of systems technology at all levels of the educational process.

B. Research. The instructional technologist of the 21st century will essentially be a consumer of research. Research data will be identified, collated, and evaluated as to its applicability to specific situations. Additionally, the 21st century instructional technologist will initiate research by identifying appropriate areas or topics of research and will manage and direct those who conduct the research. Evaluation of such projects will be another responsibility.

C. Design. The instructional technologist will have to understand the diagnostics of learning and, with the input of other professionals on the instructional development team, he will design the end products and processes. Further, he will be responsible for developing innovative design specifications into tangible formats in accordance with prevailing systems theory.

D. Evaluation. The instructional technologist will be required to evaluate various instructional methodologies as to their performance in light of criteria references. The instructional technologist additionally will need to be conversant with various testing procedures and determinants of such as reliability and validity.

E. Logistics. The instructional technologist will function as the director of all educational logistics and maintenance support activities. He will be responsible for having the right things and people at the right time and in the right place. He will be an expediter.

F. Production. The instructional technologist needs access to the skills possessed by specialists in materials production but will not need to be personally proficient in production. The instructional technologist will have to have a basic understanding of the production possibilities so he can understand alternatives to arrive at solutions for learning problems. It is assumed that by the year 2000, an adequate support staff will be available to the instructional technologist and persons possessing production skills will be specialists on the team.

G. Change Agency. One of the main roles the 21st century instructional technologist will need to play is that of change agent. He will need to interact with various sub-sets of his own instructional

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system and with other systems to expedite the dissemination of instructional innovation and its subsequent diffusion. In addition, he will become involved in evaluating instructional systems with regard to determination of the need to introduce change and the determination of the nature and rate of such change. It will be his responsibility to identify opinion leaders and to devise strategies for eliciting their assistance in the diffusion process.

H. Communication.

1. Technical. Certain skills must be possessed at the "doer" level by the technologist including high level proficiency in the use of spoken and written communication. In addition, skills utilizing the "tools" currently available should be perfected. This does not imply a technical understanding of the tools, but more a utilization knowledge resulting in an efficient, smooth, and relaxed mode of presentation when communicating information in any form.

2. Social. This implies deep insight into the process of communication. It includes knowledge on basic perception, environment, social-cultural differences, abilities, open-mindedness, adaptability and physical condition influencing the acquisition of knowledge. The instructional technologist will have to be aware of and make use of elements of prevailing communications theory.

III. CHARACTERISTICS OF THE "PERSONIFIED" CONCEPT OF AN INSTRUCTIONAL TECHNOLOGIST

For the purpose of predicting probable success as an instructional technologist, an individual should be screened in order to determine his educational level, personality traits, and degree of experience. This screening may be accomplished through review of application materials, reference letters, personal inquiry to references, standardized evaluation instruments, observation of candidate in action, and interviews. The following list of characteristics should be considered as open-ended.

IV. CHARACTERISTICS POSSESSED BY THE INSTRUCTIONAL TECHNOLOGIST

A. Personality

1. Leadership ability
2. Enthusiasm
3. Inter-personal skills
4. Intellectual capacity
5. Charisma
6. Adaptability
7. Proper motivation
8. Creativity
9. Empathy

B. Background Skills

1. Teaching skills
2. Media skills
3. Communication skills
4. Organizational ability

V. SUMMARY

An instructional technologist of the future will need to be a highly trained professional with competencies which will enable him to serve skillfully at a high level in an educational system as an administrator/manager and innovator/change agent of the instructional development/design/service process. He and a team of professionals and para-professionals will provide services related to educational media, instructional design, educational psychology, research, and evaluation. To be a successful leader, an instructional technologist will need to possess certain personal qualities and characteristics, and will need to develop, through a carefully planned program, those skills and competencies essential to perform the functions and fulfill the role he serves in the learner-oriented educational system.

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CHANGE PROCESSES: AN EXPLORATION INTO STRATEGIES MOVING INTO THE FUTURE

GROUP 6 "The Okoboji 9"
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In examining the process of change as it relates to instructional technology and the future of education, the committee report addresses itself to the future need for a continuing capacity of a system to modify itself, to evolve, through self-organizing, self-modifying, self-actualizing processes.

I. HUMAN BASE FOR CHANGE

A. Rationale

Human diversity must be recognized and dealt with in terms of the values, capabilities, interests, expectations, aspirations, apprehensions, and future needs in a rapidly changing world.

The change person is one who helps educators and others examine their most basic professional and personal assumptions, perceptions, attitudes and responsibilities. The outcomes should result in decisions which give increased attention to ways of improving the learning environment and facilitating learning through providing alternative approaches to what we traditionally have accepted.

We are living in a society that is both information-based and experience-based. We consider that all of life is learning, that learning incorporates education, but that institutionalized education, as it now exists, is just one of the forces that influence a learner. Part of the challenge in education is to provide the conditions that enable the learner to experience, to question, to create, to reflect, to relate, to evaluate, and to assess consequences for decisions.

B. Assumptions about learning

1. Learning occurs in an experiential setting.
2. Raw learning must be made meaningful by reflective thinking.

3. Learning is usually reflected in changed behavior and attitudes.
4. Learning is extended as individuals work in groups.

C. Contexts/Climates/Conditions for Learning

1. Learners should have opportunities to:

a. explore matters of concern to them

b. use a variety of resources

people	peers
agencies	libraries
raw materials	data banks
information networks	etc.

to gather data for identifying and solving problems and conflicts

c. use primary sources

d. grow in communication skills by alternative transactions:

1) group interaction

2) convergent and divergent processes

3) empathetic regard

4) probing and inquiring

e. question what is and explore what could be in both supportive and creative conflict situations

f. take risks, make mistakes, experience ambiguity in their decision-making process

g. identify and look at alternative solutions to important problems

h. recognize and come to grips with their many selves

i. understand how things are changing them and how change affects them

j. transact through participating in group process.

II. CHANGE PROCESSES

A. Premises and Assumptions Related to Change

1. All systems (individuals, groups, institutions, societies) need an internalized continuing capacity for self-modification, self-organization, and self-actualization.
2. Models of change are not absolute.
3. The rate of change is not absolute.
4. The language of change can inhibit or facilitate change.

5. The label "change agent" connotes mandatory action to prescribe change for change's sake.
6. There is a need for change in all organisms and organizations.
7. Change is a creative process that can be impeded or accelerated by extrinsic forces both natural and created.
8. Change is not the exclusive domain of the instructional technologist.
9. The role of the instructional technologist with regard to change relates to the unique professional skills, attitudes, and knowledge necessary to create or bring about a continuing capacity for change within a system.
10. Efficiency, effectiveness and accountability of group efforts compete but are not incompatible with human rights, personal autonomy, individual creativity, or professional integrity.
11. The change person's self-concept affects the change process.
12. There are quantitative and qualitative natures to changing systems (organisms or organizations).
13. Change persons must have a capacity for self-renewal.
14. Change occurs in a means-ends continuum.
15. Change requires interdependent actions and responsibilities of all involved.

B. Evolution of a Change Person's* Roles and Services: A Portrayal of Shifting Contexts and Roles

This portrayal is intended to demonstrate the dynamic interplay of a change person's role with the changing and emerging needs of the clients. In the center of the spiral, the change person becomes immersed in the setting and the "felt needs" of his/her clients, establishing a rapport and trust by satisfying these immediate needs as much as possible. Once this has been done, the change person can move from a resource and service role to one of more influence on the change process--i.e., a prober, a questioner, a suggestor of alternatives. At a later point, the change person in resource roles might pull together and present methods for rigorous and critical analysis of these alternatives, helping clients be frank with projections of possible negative and positive consequences. Throughout this process and especially at this juncture, the change person should verbally and non-verbally encourage risk-taking in the choice of a desirable alternative

*The term change person is offered by the committee as a more positive and definitive term than change agent.

Group 6 discussing Change Processes and the Future

(rather than merely an efficient or probable alternative). The facilitation of the group in planning and designing, or "crafting,"** the change, calls also for a repertoire of group strategies and planning exercises.

Also throughout the process, the change person should be sensitive to observable factors which appear to impede the group's progress, feeding back these perceptions in a responsive manner to the clients. In turn, the clients may reflect upon these and help the change person modify his perceptions, if appropriate, thus iteratively refining the formative evaluation (Stake, 1973).

Finally, before accepting and becoming committed to a change goal, the change person needs to help the clients critique the alternative strategies which would be sufficient for bringing about the change.

With skills of management and dissemination, the change person can then faciliate the final refinement of the plan and help in its implementation and further recycling.

C. Representative Questions to Facilitate a Change Person's Effort

1. Who is the change person?

What is the value stance/commitment of the change person? How should he clarify this to himself and to others?

What is his responsibility to the persons he is working with? What ethical considerations must be a part of his deliberations and actions?

Where should the change person position himself to be most receptive, most responsive, most supportive (or most challenging, most probing, most cliché-breaking, most creative-conflict-stimulating, most ...?) Out front? In the middle?

**Crafting means creating something which not only meets the practical educational need but also reflects the designer's interest, inventive skills, and sense of value.

In absentia? As a member? As an outsider? How does this vary with conditions, and what indicators should the change person use in positioning himself?

What are alternative roles for the change person? (Prophet, gadfly, expert, "one of the people," resource, manager, stimulator, etc.)

How can the change person develop these roles for himself, and choose the most effective role for the situation?

2. Why change?

   a. What cues us to the need for change?

      Forces within system(s):

      - Human elements
        - Human attitudes, values, perceptions
          - Evidence of positive attitudes: enthusiasm, questioning, etc.
          - Evidence of negative attitudes: rigidity, anxiety, hostility, etc.
        - Climate for learning and expressing
        - Multiple needs of students or others
      - Non-human elements
        - Curriculum demands
        - Administrative policies
        - Time lines and constraints
        - Scheduling concerns
        - Unpredictables

      External forces

      - Legislative
      - Community groups
      - Mass media
      - Educational media
      - Futuristic demands
      - Changing conditions of life styles
      - Professional organizations
      - Cultural influences, e.g., language

   b. What modes of language--verbal, non-verbal, face-to-face interactive, mediated, metaphorical--do people use to indicate needs for change or resistance to change?

3. Areas of Change: Locations, Kinds, Levels

   a. Where should change take place--individual's, home, other organizations--educational, multi-national (current and projected)?

   b. What kirds of change are possible -- attitudes, skills, structures, relationships, roles, curriculum, planning modes, learning modes, uses of media/technology?

   c. What levels should be considered?

      Group process growth

      Age levels--chronological, mental

      Educational background

      Status levels

      Cultural levels--individual interests, individual abilities, institutional alterations

      Awareness--internal, external

      Developmental

      Futures perspective

D. Conditions (what exists in combination with what)--which enhance or impede change must be recognized by a change person. Since change is fluid, multi-dimensional and continuous, conditions will not always be seen perfectly, but an ongoing assessment of factors is desirable.

   1. Each of these factors can change, independently or in combination.

      a. The people are a factor.

         Who are the people involved?
         What are the people's concerns and attitudes?
         What are the people's needs?
         What do the people want?
         When do the people want it?

      b. The material resources are a factor.

         What is available?
         How much is available?
         What are the implications of the resources?
         What will the movement (use) of the resource imply?

   2. Each of these factors can interact among themselves. What are the interactions, materials and people?

ERIC

A POSSIBLE FORMATIVE EVALUATION MODEL FOR A CHANGE EFFORT

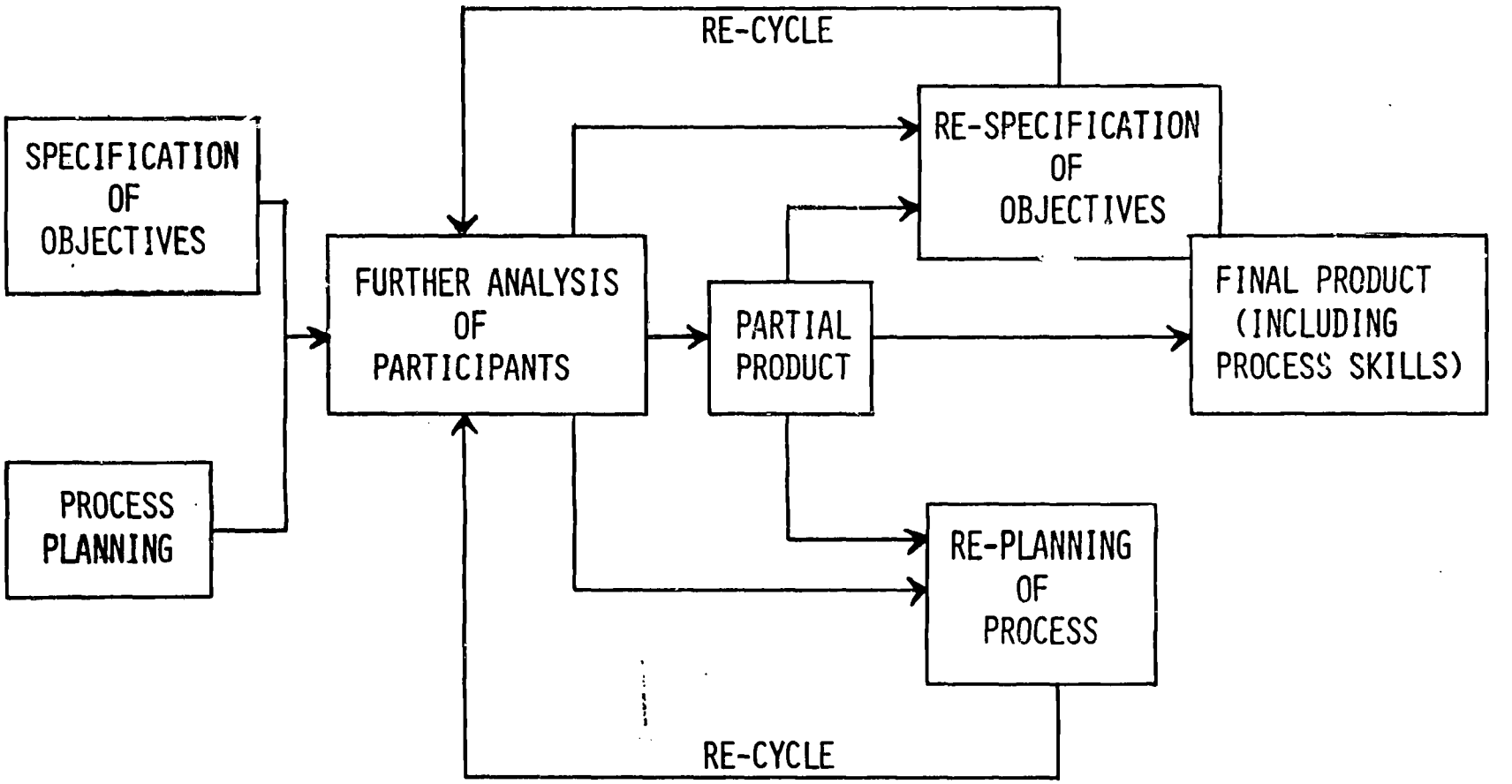

FIGURE 1

3. Each condition and/or factor can be positive and/or negative. What are positive forces? What are negative forces?

E. Strategies

1. Has an initial needs assessment been conducted? (Discussion, questionnaire, survey, records analysis, standards, previous evaluation, involvement of all personnel concerned.)

2. Who should be involved in the initial planning? What techniques of group process shall we use? How will we set the stage for opening up possibilities for exploration?

3. What is known about the individual involved? What is his level of readiness? What past involvement has he had with a "change situation"? Does he need some specific exposure to fundamental or advanced course work, group techniques, research techniques, media software or hardware? What is his preferred style of decision-making, of organization? [If a group: What is known about each individual? What patterns of leadership, disparity, interaction, and transaction* appear to be emerging?]

4. What techniques might be employed for raising the level of consciousness concerning the problem in a non-threatening or creative atmosphere? Do we need additional information? Is our problem clarified or delineated?

5. Is feedback being continuously employed? Do we need resource persons? Are incentives being offered? Would it help to travel to a location to observe a similar situation? Is released time possible?

6. How does the individual or group handle frustration, interruptions, impinging circumstances? How is the individual or group dealing with its own morale, the high and low points of progress? Is there a discernible rate of change? Does this appear to need flexibility or modification? Is more or less structure needed?

7. Do we need to reassess the initial statement of needs? Is our problem area becoming clearly defined? Are our goals clear? Is our procedural plan realistic in terms of personnel involved, time, facilities, budget, materials/equipment,

*The term transaction means the process of interaction, feedback, and restructuring of ideas.

administrative backing? Does the change depend on cooperation with any other individuals or groups who should be involved at this time? Would publicity facilitate the change now?

F. Evaluation

1. What values have accrued due to the change? Are they new values, before unrealized, or were they merely unvocalized prior to the situation?

2. How can stages, directions, changes in goals be recognized? What methods of recognition are reliable?

3. What are the indicators of the high peaks, the plateaus, the doldrums, the confusions, the shifts in a group's historical development? (Informal feedback, participants' responses, a wish to revise, a slow-down in the flow, going off on tangents, etc.)

4. What should be done with this? Who should receive the perceptions, information? How can these be taken into account in redesigning the change effort?

5. Is the program or change being modified according to the evaluation feedback? Does this modification actually meet the newly perceived needs?

6. What are indicators of people's changing commitments, attitudes, concepts, values? Under what types of conditions are these indicators most likely to surface (in moments of stress? after a new experience? at a time of threat?)

7. During the planning stage, what are the anticipated positive and negative consequences of this change for the present and the future? What strategies can be used to raise consciousness about diverse people and how they might be differently affected? (Brainstorm possible behavioral or situational indicators that would indicate such an effect.)

8. Are the emerging consequences of the change congruent with the intent of the change? Are the consequences desirable or undesirable? What tools can be used to analyze/measure/assess these consequences? What strategies will ensure ongoing change in a desirable direction?

9. Is it important to follow-up with an assessment of how lasting and far-reaching the change is?

10. Has anybody else become a change person? Is it temporary or permanent? Should this be part of the intent? If so, how can this be enabled to occur?

11. Have the change person's perceptions changed according to the situation or concept or context? How can the change person tell when he is not being open to other people's priorities or to rethinking his own?

12. What are the ethical questions that should be asked? Is the change of any worth?

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*Readings and processes that shaped the "Okoboji 9" Position Paper.

(Group 6 Report continued)

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IV. PROCESSES

Group six explored various processes of group interaction in generating ideas. The processes they explored were "brainstorming," "cliché probing," "lateral thinking," and "transacting."

The following is their record of "Happenings" in the group and "Reflections" to interpret the happenings. Figure 1 and 2, pages 92 and 93 are examples of how two members of Group 6 recorded their thoughts in novel formats.

SOME REPRESENTATIVE STEPS
IN ONE SUB-TOPIC GROUP'S METAMORPHOSIS

HAPPENINGS	REFLECTIONS
Beginning	
Group members began to become acquainted. Each person had an opportunity to share past change experiences and to identify specific concerns in the area of change. Members interacted regarding concerns.	Each person felt he was a needed member of the group. Group identity developed quickly as individuals began to know and relate to each other. Members began to accept and respect each other's ideas.

Reporting	
All members contributed to the group's report, each functioning in a concise manner.	Sharing the report enhanced members' feeling of worth and contributed to group cohesiveness. The total group responded in the uniqueness of this method of reporting.
Learning New Strategies	
Members sought a strategy to generate ideas quickly. Lateral thinking* was suggested. A question outside the change area was posed, this being responded to rapidly by all group members. This experience led to a suggestion that cliches about change be generated, explored, and evaluated as to their positive or negative connotations. ** Many ideas about change evolved.	Learning new techniques for exploring and later evaluating of ideas was stimulating. Humor and lack of tension facilitated creative thinking.
Use of a Resource Person	
The resource person, being a skilled questioner, helped to sharpen the focus, enabling the group to begin to engage in vertical thinking regarding topics identified during the lateral thinking period.	This procedure is based on the assumption that all participants have worthwhile ideas and are capable of developing, relating, and evaluating their own ideas within the group context and in an objective manner. A contributing and productive resource person becomes identified as a member of the group. This is advantageous since the group does not suspect any hidden agenda or manipulation.
Seeking closure	
The chair person sought during the second session to press for closure in order to prepare a report requested for presentation to the total group. Members rejected this attempt.	Rigorous time constraints and requests for closure and synthesis too early in the life of the group had an inhibiting effect on members' exploration of ideas which were important to them.
Fluctuating group membership	
Although this was an unusually cohesive group, individual members were involved in other conference activities from time to time. Also there were, at times, outside observers. Attempts were made, when members returned, to orient them to progress made by the group in their absence.	Continuity of membership, with its resultant shared understandings and perceptions, is an important asset to group production.
Handling challenging input	
The group had been asked to project as far into the future as possible. Input was provided which proposed revolutionary changes in the structure of education, causing dissonance for some group members. The domain of the future scenario was very far reaching and it was difficult, in the time available to the group, to assimilate and incorporate into the general approaches.	A compromise, rather than a consensus, was reached. The group proceeded in the area of agreement. Progress often can be made in a series of smaller leaps when the timing for a large leap is not feasible.

*A concept developed by Edward de Bono as an exploratory idea technique.

**It is the belief of this committee that the technique of Cliche Probing is a new and original technique developed in this session.

Synthesis

To ensure synthesis of ideas the group used varied techniques:

1. Having individual members, after a group discussion, jot down on large sheets of chart paper and view each person's ideas to arrive at a consensus regarding common topics and ideas.

2. Working together to identify group report topics, writing them independently, or in small groups, and securing group feedback.

Synthesis of the varied ideas of creative people is often a difficult task. Strategies of this type tend to facilitate the process.

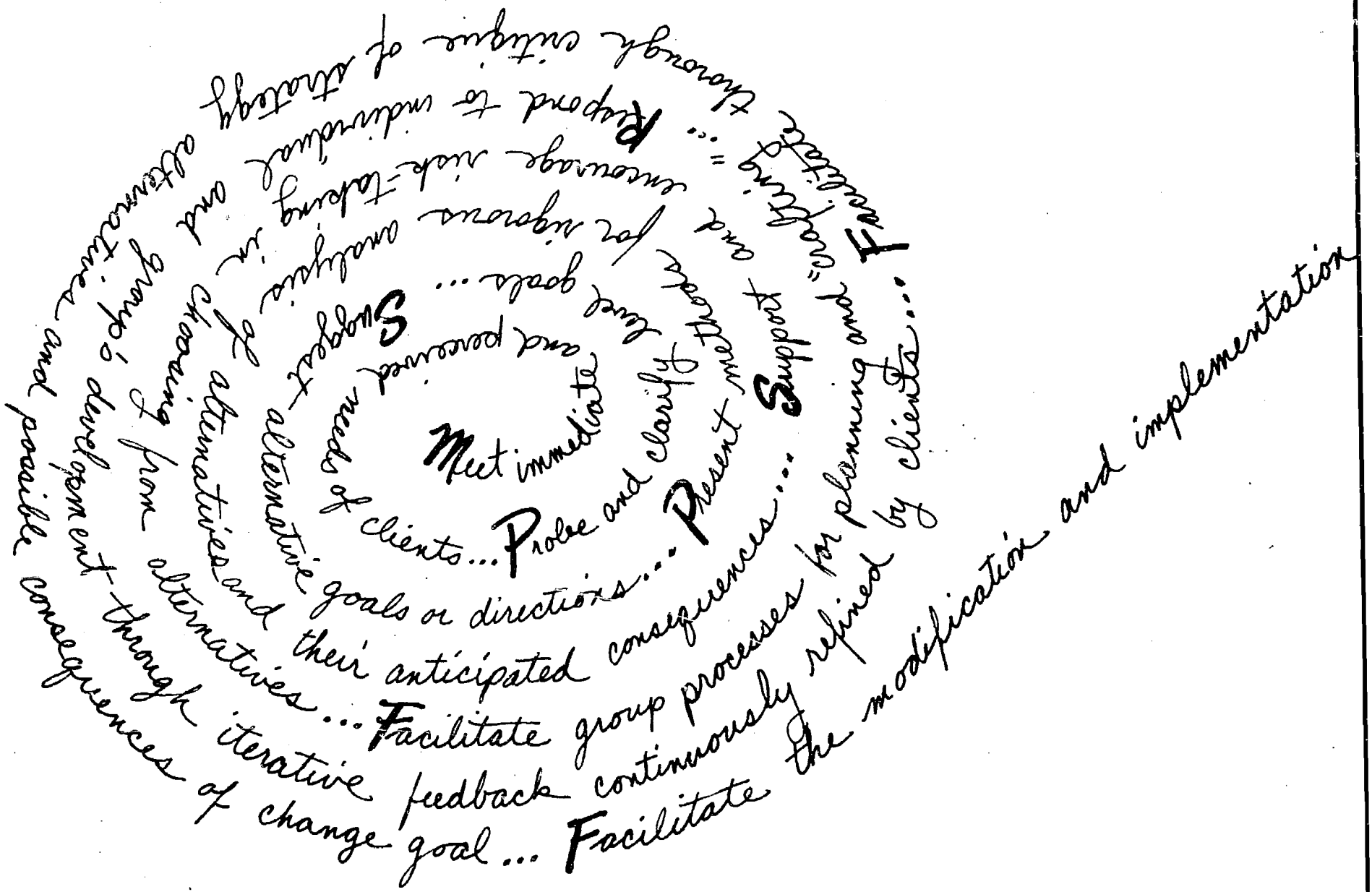
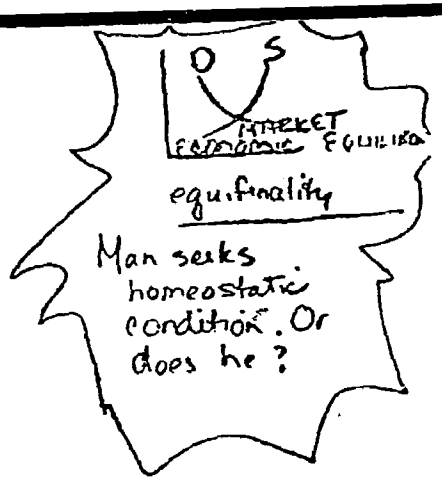


Figure 1: EVOLUTION OF CHANGE PERSON'S ROLES AND SERVICES (by Connie Leean)

ONE MEMBER'S NOTES FROM SESSION ONE.

Lateral Thinking (De Bono)



cliches

Language structure inhibits change. It freezes us into

student-dominated — teacher-dominated
extrinsic — — — intrinsic

POLARIZATION
DUALISMS

Man tends towards self-actualization.

Change involves risk. → [Risk involves change.]

The effective change agent minimizes risk. BUT is it A risk? } Success reduces Stress

[No]

It's a matrix of risks (different for each individual)

What about honesty?

Reading readiness involves "diagnosis"

Must define change, etc. in order to "diagnose" (should we diagnose?)

Our language is "new thunk" by such as —
... changing value systems
... information explosion...

We are change agents, so we MUST have change occur.

What is "good" change Agent?

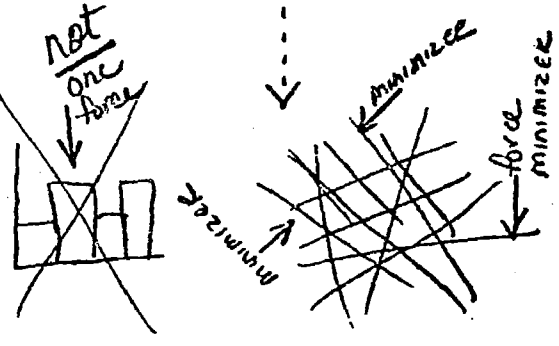


Figure 2 (by Susan Storm)

VISUALIZING THE 19TH OKOBOJI CONFERENCE

Contemplating the future

Roy Moss wears the "Smiling Face", a gift from Gunnar Handal, Norway, in 1972

Co-chairman Hubbard receives his personal elevator

Lida Cochran, recorder, explains report format

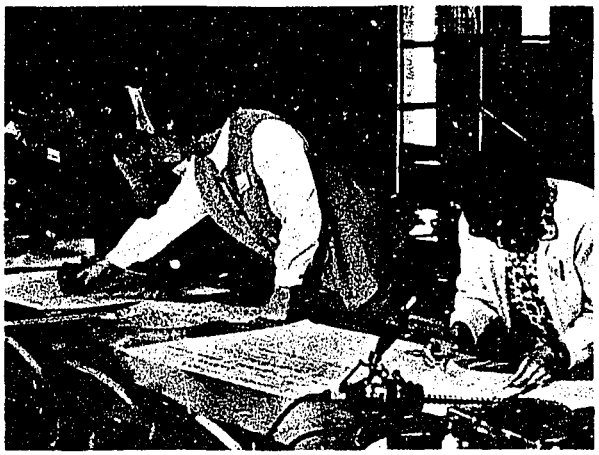
Horace Hartsell drives home a point in general session

The Okoboji campus--delegates enjoying a break

Hubbard's "Tin Pan Band"

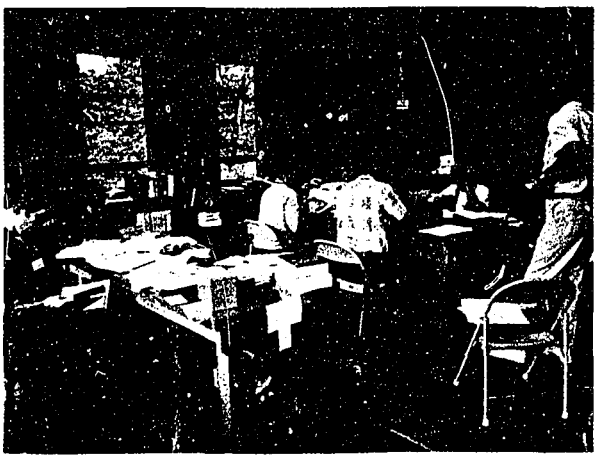
This futures is hard work

(l to r) John Hedges and Gene Clark (hospitality house managers)



Those metal chairs are hard

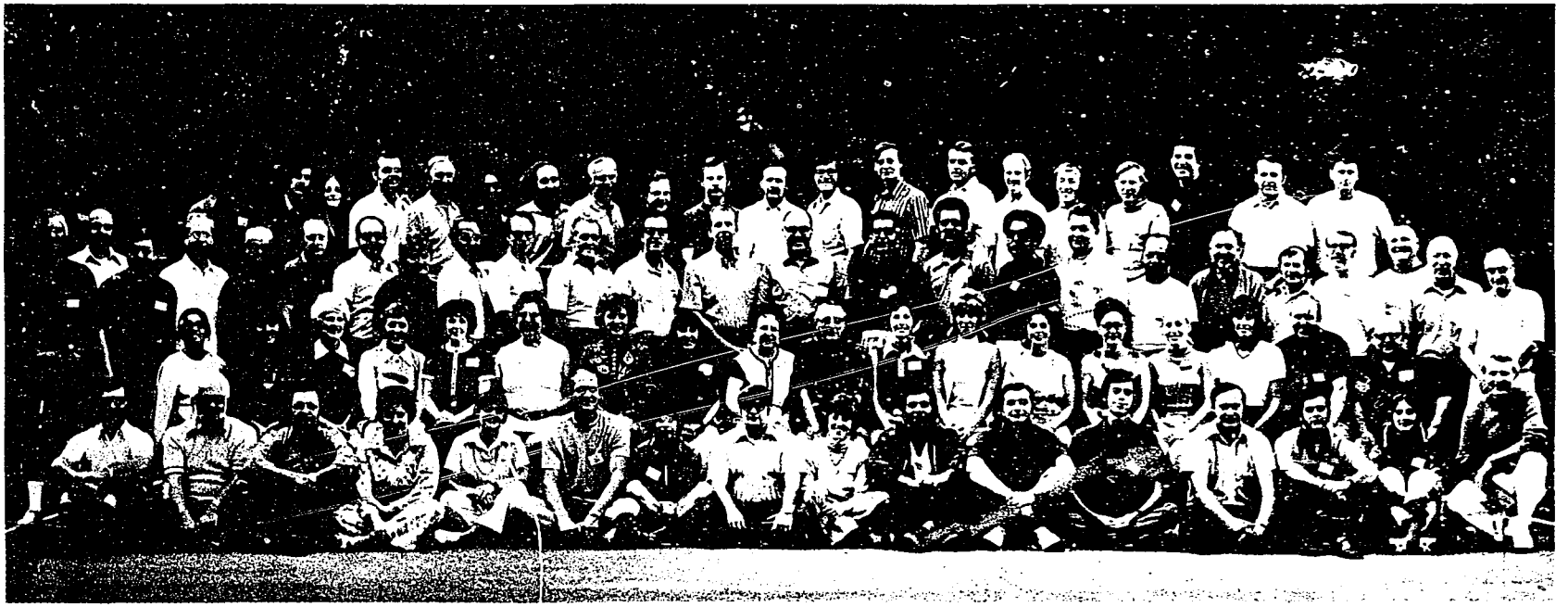
Charles Schuller (first co-chairman in '55.) A resource delegate



The resource center is a busy place when writing reports

Hubbard in concert

ERIC

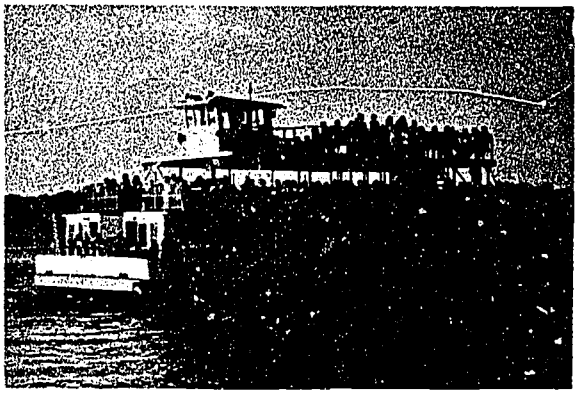


1973 OKOBOJI DELEGATES

FRONT ROW: L-R	Bizzell, Price, Rago, Ulm, Boyce, Hendrickson, Richardson, Bennett, White, Saretsky, Twiddy, Spears, Fry, Hughes, Ainsley, Oglesby
SECOND ROW: L-R	Montgomery, Meador, Anderson, Neil, Travillian, McMahan, Chisholm, Pettiross, Cochran, Lida; Cochran, Lee; Rankin, Daniels, Skidmore, Clark, Steenlage, Leean, Irvine, Hubbard
THIRD ROW: L-R	Nibeck, Rome, Chow, Ely, Bork, Evans, Crawford, Smellie, Lee, Ruff, Hartseli, Vaughan, Savage, Ross, Tully, Moss, McJulien, Bowington, Byrd, McBeath, Lawson, Cooper, Wilson, Hedges, Mitchell
FOURTH ROW: L-R	Washington, Rogers, DeLuca, Terrell, Schuller, Storm, Silber, Jarecke, Roberts, Corso, Koenig, Offermann, Mesedahl, Jones, Hall, Boyd, Billings, Moakley, King, Forbes

Onto each Okoboji some rain must fall

Study group enjoying outdoor meeting



Boat trip on Lake Okoboji

(l to r) Keynoter Ely and resource delegate Hartsell

One group duplicating and assembling their report

Coffee break - discussion continues

Voting on final reports

The conference office is a busy place toward the end with reports

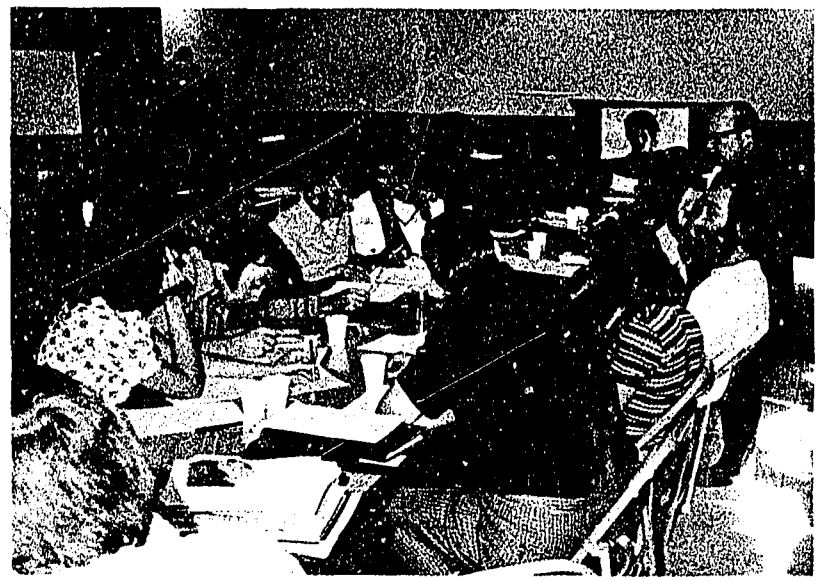
Volleyball for exercise

Dining hall

"Sweetcorn King" Clement Chow

Okoboji Chorus, directed by William Oglesby

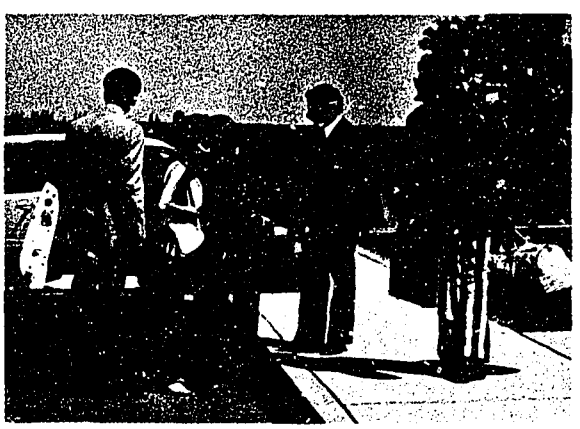
Recreation Committee award "Big O" to volleyball champs



Kenneth Silber gives conference progress report prior to adjourning Okoboji '73

The 1974 Planning Committee meets after adjourning 1973 meeting

THE 19TH OKOBOJI CONFERENCE ADJOURNED AUGUST 17, 1973.



Farewell until 1974!

These are the concerns submitted by the delegates to the 1973 Okoboji Conference. They were distributed at the opening of the conference and were used by the Planning Committee prior to the conference to help formulate the discussion subjects.

THE FUTURE OF INSTRUCTIONAL TECHNOLOGY

1. LUCY AINSLEY (Michigan)

I. A futurist's vocabulary (terminology)
--We need to construct a common glossary since the dynamics of change mandate new jargon (e. g., adaptive reaction? ad-hocracy? exobiology? cyborgs?)

II. Socio-Economic Futures: Implications for Education
A. Dynamics of change (What can we learn from the past?)
B. Individual vs. societal needs (Will they conflict?)
C. Economy of abundance (Must all men work?)
D. Changing ethics and values (Will "evil" become "good"?)

III. Environmental Implications for Education
--Over-population occurs primarily in "less educated" cultures and social strata. Will this imply an intellectual aristocracy of the future?
--Environmental pollution may reach a crisis stage with our "global village" unable to support its population. Whose job is it to retard this development?

IV. Changing Life-Styles and Longevity: Educational Ramifications
--Living to 100 years of age is becoming a biological reality and a process of "non-terminal" learning will be essential for:
A. Changing careers (re-training)
B. Leisure time pursuits and crafts
C. Stimulating creativity and intellectual curiosity

V. A changing concept of "the school"
A. Curricular structure? (process vs. content)
B. Functions (purpose and administrative structure)
C. Facilities and locations?

VI. State of the Art (technology)
A. What do experimental projects imply will be feasible for education in 20 years? in 40 years?
B. Are we really aware of what is possible NOW?
C. Importance of retaining the human interface in I. T. ?

VII. Moving the Governmental and Educational Bureaucracy (local, regional, state and federal)
A. A massive "indoctrination process" for the short-sighted among us?
B. Strong educational leadership which is able to "bring the mountain to Mohammed"?
C. What specific efforts can we make NOW?

Many of us are discussing the above problems and concerns rather dispassionately today. My very basic concern is that we are NOT concerned ENOUGH NOW. Tomorrow is breathing down our necks today.

2. S. BARTON BENNETT, JR. (Louisiana)

I. Educational Technology is not being used effectively
A. Equipment is produced faster than teachers learn to use it
B. Equipment is still used only as an aid to education

II. Need for teachers and administration to be retrained
A. Equipment should be part of education program
B. Re-education of teachers and administration to value of technology

III. Education should equal more than the sum of its parts
   A. New educational innovations should be wisely integrated with each other and the teacher
   B. Technology can be responsible for making the lessons effective

IV. Systematic application of communication technology should be applied to educational problems
   A. Equipment should replace the teacher's role in performing non-professional duties
   B. Teacher time should be only for personal interaction with students on an individual basis

3. JOHN BIZZELL (Missouri)

I. Financing Instructional Technology
   A. Develop strategies for increasing federal support of technology to replace NDEA Title III
      More lobbying by AECT at the national level
   B. Strengthen state department standards for local media programs
   C. State media associations should become more active in attempts to influence state legislation
   D. Regional media centers or service centers should be established in each state
      Provide network distribution of media throughout each region
   E. Local districts and institutions must devote more budget to non-book media
      More experimentation with innovative technology--cable TV, and CAI

II. Improving Instructional Technology
   A. Staffing--Improve competency
      Heighten commitment to the profession
      Relate positively and cooperatively with librarians and other co-workers
   B. Materials--More and better locally produced media
      Better selection
      Co-op and unified purchasing of materials for lower prices
   C. Equipment--More testing and research reports from national agencies with specific recommendations to the educational equipment buyer and the manufacturer
      More lease to own arrangements on individual items of equipment and equipment packages
      More attention to service after the sale
      Wider utilization of computers, offset lithography and cable television
   D. Facilities--Should be more attractive, flexible in design and comfortable in use

III. Curriculum
   A. More emphasis on education for enjoyment of leisure
   B. Visual literacy should be clarified and implemented
   C. Implement instructional design concept
   D. More involvement of students with local community
   E. Develop programs to help students tutor and assist other students

IV. Management
   A. More involvement of all personnel affected by a decision in making the decision
   B. Improve evaluation of personnel and programs
   C. Expand instructional team to include specialists, aides and more paraprofessionals

4. E. W. BOWINGTON (Virginia)

AV futurists are expounding rosy prognostications for educational technology. This enthusiasm has been a source of embarrassment to those of us working day-to-day with school faculties.

I doubt that an educational system today has equalled its propaganda.

Most hardware systems have had serious debugging problems, low reliability and high maintenance.

Most continue to be incompatible with other systems. Video tape is a good example of this. There is no industry-wide standardization.

Hardware is becoming obsolete as soon as it hits the school AV storeroom.

Software is lagging far behind the hardware. Educational technology is only as good as the materials we feed into it.

We need to know more about the way learning occurs with various kinds of students. If we knew more about intelligence, motivation, the rhythm of learning, the role of repetition, and many other things - we could design better machines and better programs for them.

At the present time there is a great deal of guesswork in educational technology.

The failures we have experienced in educational technology have had an effect on the attitudes of teachers toward the process.

Distinguished scholars will not invest their time and energy in a field where little recognition is offered and royalty rates are low or non-existent.

A professor can make more money writing a textbook than he can in writing a computer program.

He can gain more professional recognition and advancement by publishing a scholarly work than by tinkering with a teaching gadget.

Too often grand plans are drawn up by consultants or other outsiders who have no personal responsibility for carrying these plans out in the school or school district.

Too often AV systems have been thrust upon teachers by administrators who were enamored by innovations or who were simply seeking to cut costs.

Too many systems are put on the market without proper evaluation.

Big changes of any kind are rarely possible. Politics, protectionism and simple inertia are as evident in education as in any other bureaucratic activity.

When will coaxial cable, microwave, and satellite transmissions be available to public schools at a price they can afford? When will these devices tie the school and the home together?

We must think in terms of "Integrated Systems", not in terms of hardware and software.

Software must be designed for a specific need, tested in practice, revised, retested, and finally validated. We are nowhere near this.

The sad state of the "Art" is welcomed by those who would keep our kinds noses in a book. By the traditionalists, and those who would maintain the status quo in education.

Reference: James Koerner's book, The Parsons College Bubble. Published by Sloan.

5. MAXINE BOYCE (Wisconsin)

I. Perspective of Instructional Technology as the Past and Present are related to the Future
   - A. General trends
   - B. Educational trends
     1. General education
     2. Elementary and secondary
     3. Higher education
     4. Administration
     5. Educational personnel

II. Group Interactions of Instructional Technology-oriented Personnel
   - A. Sharing of ideas
     1. Present involvement and experiences with Instructional Technology
     2. Broadening of present knowledge as major readings and various focal points are considered and presented
   - B. Expanding of ideas
     1. Research strategies and summaries
     2. Trends
     3. Brainstorming for creative insights
     4. Forecasting of Futurism in Instructional Technology
   - C. Implications for specific systems
     1. Technology
     2. Economy

3. Social
4. Political
5. Education

D. Applications of ideas
1. Projected
2. Actual

III. Trends in Leadership
A. Six C's of Leadership as N. P. Pearson, LEARNING RESOURCE CENTERS-SELECTED READINGS, Burgess, 1973 Lists
1. Committed
2. Competent
3. Cooperative
4. Creative
5. Conscience
6. Courageous

B. Training programs for graduate students
C. Shifts in roles of personnel in Instructional Technology

IV. Strategies of Change Relating to Futurism and Education
A. Evaluation of need to consider change(s)
B. Levels of approach
C. Time factors
D. Measurements of change
E. Evaluating change patterns
F. Alternatives
G. Recommendations

(With more readings and accumulated background this brief outline is to be revised in my mind and during the meetings of the conference. . .)

6. WARREN A. BOYD, JR. (Iowa)

I. The Fragile Earth
A. Destruction of the Earth's resources threatens the future of the planet's inhabitants. We are polluting the air, the water and the land.
B. Overpopulation is contributing to energy and food crises and the various pollutions.
C. Can Government and Education (preferably the latter) turn people's thoughts to "Necessity" rather than "Convenience?" Think "Let us survive," not "I want. . . "
1. When one thinks of convenience, one thinks of the CAR. With a fuel crisis joining the other crises, let's de-emphasize drive-in churches, weddings, grocery stores, drug stores, libraries. . . drive-in ad nauseum, ad carbon monoxide.
D. If action is not taken to solve the above mentioned problems, there is little reason to read further.

II. Think "World"
A. Isolationism and Nationalism will succumb to Globalism--international government including executive, judicial and legislative branches to combat overpopulation, hunger, illness, racial injustice and war as well as protect people's rights and the ecosystem.
B. Will Instructional Technologists--with linguists and communication specialists--help to establish common language and symbols to facilitate the communication needed for this unification of multi-tongued nations?
C. Can the Individual grow without infringing on others and his environment? Conversely, can Government achieve global equilibrium without limiting individual growth?
D. Can Education help people think and react "globally?"
E. Can National Pride ("We're Number One!") be kept in proper perspective?

III. Society
A. Can alternative societies and countercultures live with those following more traditional life styles?
B. Are we using or wasting leisure time? Will more leisure time in the future be a blessing or a burden?
C. Is the disparity between rich and poor growing?
D. A credibility gap continues to grow between "the people" and "the institution," including education. Can we grow together through trust and understanding?

IV. Education
A. Ashley Montagu says we have forgotten that Man is Earth to live as if to Live and to Love were one. Is Education--as is Society--focusing on the wrong values? Re knowledge and learning, "We know everything about everything except what it's for," to paraphrase Mr. Montagu.

B. Education must become the responsibility of other institutions--government, industry, the church, the home--as Learning becomes lifelong. What effect will this have on funding? Learning will move outside the classroom with instructional technology providing a major link between teacher and student.
C. Within education, problems--universal and local--must be met by the combined interdisciplinary forces of the poet, the technologist, the philosopher, the scientist and the humanist.
D. Will we be better able to measure the output of Education and its technology, justifying their existence?
E. Regarding equality:
   1. Children will be treated as adults with full rights and responsibilities in their education--being allowed to establish their own needs and choose what they learn from whom.
   2. Will our curricular materials be nondiscriminatory? Can we open our minds--as we open our apertures--to a Navajo girl operating a microscope or a man doing clerical work while confined to a wheelchair?
F. Can we guide and advise children's perceptions of reality as less is based on direct contact? (Life's situations do not peak and reach solutions within 58 minutes, including six commercials.)
G. Will we be able to afford complete, effective individualization of instruction?
H. Will our curricula start to emphasize the future and adaptation to change?

V. Instructional Technology
A. Can we "sell ourselves" as positive forces in reaching tomorrow's goals?
B. Will the Instructional Technologist become a "man for all systems?" Is the trend toward specialist or generalist?
C. Cannot the high school "media specialist," Agriculture's "audiovisual coordinator," industry's "training director" and the college professor learn from each other? Will the professional organizations work and blend together to facilitate cooperation and joint programs of mutual interest and assistance?

VI. Technology
A. The information technology at our disposal will become less expensive, smaller, faster. It will have greater capacities and be easier to operate.
B. Will we more fully utilize the media currently available; e.g., television, film and the computer?
C. As thinking machines (computers) become more sophisticated and help reduce boredom on many jobs, there is also the danger that the computers can help to extend the State's control over its citizens.
D. Cable TV is more than "just a better picture." What can it do to take the classroom and the library into the home?
E. What challenges do lasers and satellites pose for us? Can they be effectively utilized in instructional technology?

7. JERRY BRONG (Washington)

I. Define role of education (both in and out of the formal school) in society
A. Define the process of instructional or learning technology in education for and of the future
B. Examine the role of instructional technology in the alternatives to the schools

II. Determine role instructional technologists can play as decisions are made regarding:
A. Curriculum (content and processes)
B. Establishment of social priorities to be addressed by education

III. How to establish the instructional technologist as an essential element in the educational system of the future
A. Define the variety of roles for instructional technologists
   1. Identify competencies needed by the instructional technologists to fill these roles
   2. Establishment of systems that will allow for the development of these competencies
B. Insertion of the instructional technologists as a participant in the decision-making process
   1. Curriculum definition, including range and sequence of instruction and methodologies for teaching and learning
   2. Determination of educational or learning priorities
   3. Determination of the points where critical decisions are made

IV. Predictions of the following:
A. Impact, both positive and negative, of technology on learning and teaching in the future

B. Dependence on the instructional technologist as an essential element in future educational systems
C. National priorities for instructional technology as measured by the following indicators:
   1. Roles of USOE NCET in the NIE, and other agencies of government in furthering the application of instructional technology
   2. Funding for research, development, and operation in technology fields
   3. Identifiable commitment of both the legislative and executive branch of government to the application of technology to learning and teaching
D. Establishment of the instructional technologists in the decision-making processes in state education system.
E. Creation and use of management tools to further the operation of instructional technology systems

8. CHARLES BYRD (West Virginia)

I. Definition of the field
   A. Need for definition(s)
      1. Single vs. multi-faceted definition(s)
      2. Fixed vs. changing definition
   B. Problems in agreement upon and acceptance of definition(s)
   C. Adaptation of and to definition(s)

II. Education in the future
   A. Role of the school
   B. Other alternatives

III. The role of technology in instruction
   A. Continued imposition upon the curriculum or,
   B. Integration into the total curriculum
   C. How to effect necessary change or:
      Dynamic technology vs. static methodology
   D. Technology for teaching vs. technology for learning.

IV. Teacher preparation
   A. Manager of instruction vs.
   B. Purveyor of information
   C. Effecting change in teacher preparation programs
   D. Certification
      1. Program based certification vs.
      2. Competency based certification.

V. Preparation of media personnel
   A. Professionals
      1. Roles and/or categories
      2. Nature and extent of demand
      3. Preparation
      4. Certification
   B. Technicians and/or sub-professionals
      1. Types
      2. Nature and extent of demand
      3. Training
      4. Certification

VI. Development and implementation of educational technology programs in:
   A. K-12
   B. Higher education
   C. Continuing and career education

VII. Providing support for educational technology
   A. Funding
      1. Federal
      2. State
   B. Role of state education agencies
   C. Role of local education agencies
   D. Role of professional associations
      1. Education field
      2. Other fields

VIII. Leadership Development
- A. Leadership qualities
- B. Determining potential leaders
- C. Recruiting, training, and retraining leaders.

9. MARGARET CHISHOLM (Maryland)

I. Concerns about the future of Instructional Technology focus on the following major areas: personnel, education of personnel, and services. They could be delineated as follows:

A. Personnel
1. What is the most appropriate education for personnel in instructional technology for fulfilling future needs?
2. How will this education have to change to meet the changing needs?
3. How can certification requirements be structured to accommodate the emerging needs?
4. What plans are needed for accrediting educational programs?
5. How will the role of personnel in instructional technology change as educational patterns change?
6. What role will personnel in instructional technology play in the emerging alternative patterns of higher education in the external degree programs?
7. What are the characteristics of students who should be given priority admission to these programs?
8. What roles will evolve for technicians, paraprofessionals, and entry level professionals?
9. What programs of in-service training must be developed to keep the personnel up-to-date?
10. What shall be the relationship between the professional organizations and vice versa?

B. Services
1. What can be done to provide effective access to all non-book materials?
2. What must be done to provide networks of information?
3. What can be done to provide assistance in the processes of selection and evaluation?

10. CLEMENT CHOW (New York)

I. The identity of instructional technology

There have been many attempts to identify the mission of instructional technology. One of the latest study concentrates on the learner. The U. S. Office of Education has been requesting proposals to develop standard terminology and measuring units of instructional technology. What will the funded project yield? And what influences will the results have on the instructional technologist and his profession? Can we comfortably project the future of IT under these uncertain conditions?

II. The educational priorities of the future

What effect will the changing educational priorities have on IT? What about the effect of the emerging concepts of open higher education, extended campus, life-long education for all, voucher plan, etc. ? What stance should the instructional technologist take regarding these developments?

III. The future

What is the future? Should the instructional technologist use predictions by others as blue print? Or should he set up the desirable future and work for its fruition?

11. DON L. CRAWFORD (Illinois)

The conference theme, "The Future of Instructional Technology," raises other considerations and questions: (1) the basic underlying question of the future of education; (2) we must consider short range considerations; i. e. 5-10 years; and (3) long range considerations; i. e. the 21st Century. Certain assumptions must be made: (1) Will the state continue to assume the major responsibility for the education of its citizens? and (2) Will the educational process program continue in a formalized structure of the school in any semblance of form as we now know it?

The Senate of the Illinois Legislature passed Resolution 99 in April 1973. Three points of the resolution speak toward the future of education, at least as it is perceived by the Illinois Legislature. The pertinent points in the resolution are:

1. Responsibility for education rests with the state and in the general assembly
2. An era of knowledge explosion exists
3. Extreme demands are placed on an already over-burdened educational system

Senate recognition of the problems and conditions cited above is appropriate and in keeping with the long range goals and future needs of education as they are envisioned for Illinois and for the nation.

The Office of the Superintendent of Public Instruction for the State of Illinois has also addressed itself to the future and the short and long range problems in education. Many of the goals established by that office and their solutions hinge upon the application of instructional media. The goals include:

1. Physical facilities, instructional media and staff necessary to implement program innovations.
2. Guidelines for teachers in effective utilization of media centers in the individualized instruction curriculum.
3. Teacher education in the use of materials and media.
4. Support of media education with emphasis on reading modification and competency in reading and related audiovisual skills and materials selection.
5. Legislation to provide staffing, facilities and materials for school media centers.[1]

The role of education and the expectations society places upon education are considerably different than they were a generation ago let alone at the turn of the century. Education is charged with many responsibilities previously undertaken by the home, apprenticeship programs, and other agencies of our society. Today, education is expected to serve as a total experience field and preparation program for a vastly expanded population. A population that is not only greater in terms of the sheer numbers but also greater in terms of the age span in which we find children and young adults engaged in some form of formal education. Society demands that the school no longer limit its programs to basic academic skills but rather that education address itself to the problem of the "education of the whole child." In a society that is in turmoil, in a world in which change is more rapid than ever before, formal education is charged to prepare the child for life in a future that is in large measure unknown and at which we can only speculate. To deal with an assignment of this nature, educators now talk of preparing the student for life by developing those skills and attitudes toward learning that will lead to and equip the person for continual education from infancy to old age. If a person is to deal effectively with a continual learning process he must be prepared in early life with the skills and abilities to act as an independent learner. With this background in mind, the trend in education is toward the individualization of the educational process permitting students to learn at their own pace through the counsel and guidance of faculty. Student involvement and innovation in education are essential elements in the restructuring and modification of school programs and curricula as change is adopted for educational modifications and long range goals. The central core of a viable and progressive school is the instructional media program.

Drucker states that we have ahead of us a long period of turbulance of rethinking fundamentals and of designing school systems different from what we have today. What may these schools of the future be like? Let's again consider the goals we have identified earlier; namely, the education of the total child and the development of the individual to be an active learner for his entire life. With these two premises we can draw some conclusions:

1. Tomorrow's school will have no failures. It must guarantee every child an adequate minimum level of accomplishment in the fundamental skills necessary for successful living in our society. This is not unrealistic. By age 3 or 4 basic skills which are extremely complex such as the English language have been accomplished.

2. Schools must utilize each individual's own learning speed and his own pattern for gaining knowledge. None of us learn exactly the same way. The lock-step pattern of education will be extinct.

3. The schools will no longer be labor intensive. That is, we will no longer rely on the teacher's effort being imposed on the entire class, rather we will have additional investment in learning tools and capital equipment. We no longer will send our faculty to the classroom to labor bare-handed without an adequate system of learning tools.

4. Our future schools will be neither behavioristic nor cognitive, neither child centered or discipline centered--it will be all of these.

5. Tomorrow's school will be more effectively integrated into the community and quite possibly have close ties with a regional institution of higher education.

6. Our educational system will acknowledge that learning is life-long. Learning does not cease when one leaves the formal educational surroundings of the school. Continuing education will be in one form or another a recognized part of each citizen's opportunities.[2]

We live in a world that is swept up in media in our homes, in our businesses, and the schools must maintain pace everywhere to meet our present obligations to say nothing of our providing a vehicle to support new educational programs of the future.

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[1]OSPI, Action Goals for the Seventies: An Agenda for Illinois Education, May 1972.

[2]Drucker, Peter, "School Around the Bend," Psychology Today, June 1972, pp. 49-51, 86, 89.

12. ARTHUR EVANS (California)

In my estimation, affective learning is at least as important as the other two domains. Research in instructional technology has, in the main, failed to concern itself with the affective domain.

Budget problems continue to beset all of us. Instructional technology is often the first to receive cuts. As an organization we need to do more in the realm of public relations, public information and state as well as national lobbying.

As a group we often tend to end up talking to each other. We need to involve top administration and board members.

Most educational media used in classrooms is produced commercially. We need more communications with professional instructional developers.

Teacher training and in-service training regarding the use of educational media is inadequate.

13. WARREN FRY (Arizona)

Contemplation of "The Future of Instructional Technology" as it relates to the use of educational media in the public schools, brings the following questions to mind:

I. Instructional technology as a discipline has progressed from the pioneering stage to the present state in a short period of time.
   A. Can we gain future insight by identifying our stages of development?
   B. Are we presently rising or falling in importance?
   C. Will we lead or follow in the future?

II. Is our future in the area of curriculum development?

III. What will we need to know about:
   A. Learning theory?
   B. Communication theory?
   C. System analysis?
   D. Logistics?
   E. Management?

IV. Will future developments in instructional technology be made by media people?

V. School finance
   A. What will be the immediate effect of revenue sharing?
   B. What will the significant changes be in financing education?

VI. Will the schoolhouse continue to be the center of learning?

14. CHARLES R. HENDRICKSON (Colorado)

It seems to me that no matter how hard we (Educational Technologists) try to improve the learning process we are confronted by many who do not like the use of technology--will not use it--will not pay for it--and think we are crazy.

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1. If we have not been able to affect those around us up to this point, how do we expect to have any effect on them concerning the future?
2. How do we define needs of the future?
3. How do you project the demand that society might place on educational technology at this time?
4. How do you familiarize a population mass simply on the use and ramifications of that use of educational technology?
5. How can you justify the use of educational technology to the low income group in our society?
6. How do you control the quality of content of educational technology in the future?
7. Who is to say what content is good or bad?
8. How can our own organization improve the process of getting new information, materials, philosophies, etc. to personnel in the field that are out of the mainstream or in out of way places?
9. How can we as an organization improve liaison efforts with other organizations in the future?
10. "The meek shall inherit the earth because they do not have enough nerve to say they do not want it." (Please excuse this, I was brainstorming and put it in because to me this is one of the reasons we don't have the things we would like.)
11. How do we keep from "marching backward into the future?"

15. CLARKE HUGHES, JR. (Louisiana)

It is most important to remember that instructional technology is for the learner. Thus the future of instructional technology seems to rest on the ability to effectively meet several basic needs with regard to this fact.

1. The desire to use technology must be developed in the teachers; otherwise, instructional technology will fail.
2. It is necessary to take measures to insure strong backing by top authorities in school systems in order to effect rapid change in those systems.
3. Teachers must be encouraged and allowed to play an active part in all planning and use of instructional technology.
4. The future depends on being able to identify potential users and develop new materials for their use as well as updating and reissuing materials presently in use.
5. The ability of those involved with instructional technology to make certain that it is used only where deemed the best method rather than for the mere sake of using instructional technology.

16. ROBERT IRVINE (Washington)

The future of technology in education and its employment in the educational process is of great concern to me as an educator and learner.

Most of us are personally aware of the need for continuing professional studies, oftimes taking rather dramatic new directions compared to our original training. Many of us have observed the fascination and the rapid learning exhibited by school children when presented with well designed interactive instructional tools including interactive television, computer terminals, audio-tutorial materials, and computer aided instruction.

The proliferation of new courses of study and the addition of interdisciplinary programs of study point to our need of relating educational technology to the learning process.

Communications, in concert with new ways of instruction should be our concern and within the scope of educational technology. Specific activities which deserve special attention in a Futures Society include:

1. Meeting the growing demands for extension and continuing education opportunities.
2. Cooperative sharing of skilled and specialized personnel between centers of learning.
3. Bringing resource persons together from distant locations to interact with individuals and groups.

4. Extending and expanding alternative learning experiences for students.
5. Sharing of resource materials and facilities which go beyond established boundaries.
6. Immediate access to sources of information through electronic delivery systems.
7. Interviewing, counseling, recruiting and consulting via interactive television.
8. Integrating the accessing of print and non-print information, computer data, instruction with interaction, or other forms of individualized learning programs with student response systems.

Keeping in mind the past and present state of the art, I'm sure that innovative entrepreneurs will produce many surprises for us all in a Futurist Society. I hope that education has the privilege and consciousness to shape its destiny.

17. W. MARSHALL JONES (Montana)

1. What are the strongest influences on Educational Technology?
   a. What motivates these influences?
2. Are the motives and influences beneficial to education?
   a. What standards do we choose to judge beneficially?
3. Are the strongest influences actually reflecting the real needs of society?
   a. How do we determine what are societies real needs?
4. Can the needs of society be helped by Educational Technology once they are determined?

18. WILLIAM J. KOENIG (New Jersey)

1. What should the goals of the future be in order to educate students realistically?
2. In the past colleges have led the way in educational reform. Should this practice continue or should we encourage elementary schools to become leaders and innovators in technology?
3. How can libraries adjust to the new technology?
4. How can we use public relations to promote these new educational concepts?
5. Who will pay the tremendous costs connected with advanced communications and technology?
6. What part will instructional technology play in information retrieval as it is used in our public institutions?

19. JAMES R. LAWSON (California)

The Definition and Terminology Committee of the AECT, in a paper edited by Don Ely, and titled The Field of Educational Technology--A Statement of Definition, states the goal and purpose of the field as follows:

> The over-riding goal and purpose of the field of educational technology is to facilitate and improve the quality of human learning. p. 3

The definition paper further states:

> The uniqueness of educational technology, and therefore its reason for being, lies in the philosophical and practical approach it takes toward fulfilling this purpose. p. 3

I do not believe that the definition committee intended to equate the philosophy of the educational technology movement with pragmatism, exclusive of other epistomological, metaphysical, or axiological considerations. Rather, explication of the philosophy of the movement and delineation of the unique "philosophical approach" have been neatly overlooked. And this is precisely the point of my concern.

It would appear that the 1973 Okoboji Conference theme, "The Future of Instructional Technology," should be discussed in relationship to the improvement of the quality of human learnings as well as the facilitation of human learning; discussed in terms of the unique philosophical approach educational technology offers as well as the practical approach it takes toward fulfilling its purposes.

There appears to be a pervasive pragmatism suggested by the sub-topics and discussion questions of this year's theme. The suggested sub-topics and questions are certainly relevant and significant, but they are only half related to the goal and uniqueness of the educational technology field.

Should not the leadership of the educational technology movement also discuss, describe, and analyze the future moral and ethical issues that arise from the advancement of the science and technology of instruction and learning? Certainly, a more sophisticated science and technology of behavior manipulation or the manipulation of people's basic concepts conjures up a specter of the future that has implications to today's leadership and the future of instructional technology. Certainly, addressing these future philosophical issues, or not addressing them, as the case may be, says something of the philosophy of a movement whose concern is with the quality of human learning.

Leroy Augenstein (1969), in a book titled, Come Let Us Play God, attempts to wrestle with the crucial issues and ethical dilemmas facing the medical field due to the advancement of science and technology. Augenstein states:

> Science marches on, fast and furiously, but all too often our ability to handle our newfound powers does not keep pace. Increasingly, the advances being made in many areas of science and technology pose ethical and moral dilemmas which cannot be resolved by facts alone. Rather, the proper utilization of our new scientific findings requires that we face up to some terribly critical decisions, based upon our most fundamental values and beliefs. p. 3

Dennis Gooler, in a talk before the Leadership Training Institute, Bureau of Libraries and Educational Technology, U. S. Office of Education, in 1971 addressed some of these crucial philosophical issues as they directly relate to instructional technology. He spoke of the future, of instructional technology, and of three broad social concerns: the feeling of alienation among a growing segment of the population, the quality of life in society, and technological responsibility.

Should we not consider at least one sub-topic related to future philosophical developments in instructional technology? To quote Augenstein:

> Only a blind fool could look at our society today and say that philosophical and technological developments are in harmony. If we continue to have what C. P. Snow has called the separation of the two cultures, then I think that like earlier societies, we shall decay very rapidly. p. 15

A suggested sub-topic for consideration: FUTURE MORAL AND ETHICAL ISSUES RISING FROM THE ADVANCEMENT OF SCIENCE AND TECHNOLOGY IN INSTRUCTION AND LEARNING.

20. CONNIE LEEAN (New York)

The following four areas represent my main concerns for this leadership conference:

I. Future Stance

A. What is the difference (in theory and action) between asking (1) What will education be like in 1990?" and (2) What should education be like in 1990?" and (3) How can education be such and such in 1990?"

B. What is the difference (in theory and action) between asking (1) "What is the future of Instructional Technology?" and (2) "What should be the future of Instructional Technology?" and (3) "How can Instructional Technology be such and such in the future?"

C. What are the differences in thinking, planning and carrying out educational technology designs when one assumes a reactive, coping stance as compared to when one assumes a pro-active, inventive stance toward the future? Does it make a difference?

II. Values

A. If significant changes need to occur in the present and the future (Rescher, 1969) in order for man to be in control of his environment and destiny, how can educational practices enable this change to occur?

B. If it is important for young people and adults to be clear about the values they hold and why (Simon, Rath and Harmon, 1968), how can educational practices further this clarification?

C. How does one integrate and sustain values stressing humanistic growth in a society trending toward automation and cybernation?

III. Role of Innovator

A. If it is true that an innovator is a "refugee" or "alien" in society, not bound by traditions of society (Boulding, 1969), what educational experiences can encourage and nurture such creative, non-conformist stance to life and educational problems?

B. Does an innovator have a conscience? If so, what relationship is there between technological innovations and social responsibility?

C. How does an educational innovator "sell" his ideas without manipulating and coercing others? What is known about the processes, strategies and impact of involving significant others in the planning and development of a "new idea"?

IV. Emerging Educational Needs

A. If rapid change is inevitable (Toffler, 1970), how can educational practices help young people and adults deal realistically (coping and understanding) but also creatively (actively and pro-actively) with what is happening?

B. Considering that the future of the next generation might hardly resemble our own, what kinds of learning and curriculum are appropriate and should be developed and implemented now in the present?

C. What are the needs (educational, technical) in the mushrooming new programs from areas outside the traditional K-12 settings, such as:

1. Early childhood education
2. Prison rehabilitation reforms
3. Compensatory education for children, youth and adults
4. Special education programs - handicapped and gifted
5. Work-study, apprenticeship, field-oriented educational programs
6. Education in the home via TV and cable
7. Educational programs combined with community social services
8. Open educational programs and independent free schools

....and from areas outside traditional higher education, such as:

1. Adult education in literacy, continuing education and emerging new programs such as training in civic literacy
2. University without walls
3. Community colleges
4. Free schools
5. Cooperative extension programs
6. Individually designed programs for individuals
7. Cross-discipline programs
8. Schools focused around resource and discovery centers
9. Resocialization programs for education, industry and criminolegal systems (Kennedy and Kerber, 1973)
10. Education for the worker - programs during commuting, noon-hour, released time periods

21. RON J. McBEATH (California)

I. One major concern is that as a field we will become so involved in our role in improving delivery systems that we will overlook our more general role of contributing toward improving education in a man-machine system world.

II. That we may become too involved in meeting the short-term demands and overlook the importance of long-range planning and development.

III. That the Division approach of AECT will fragment the field unless further unifying contingencies are developed.

IV. That we will become guardians and housekeepers rather than venturing into design and development activities in Audiovisual Services within higher education.

V. That our thinking will stagnate in a closed system approach with concerns revolving around delivery systems as ends instead of means to broaden goals.

VI. That to keep man in the center we should spend more energy on examining the changing roles of teachers when media are used as an integral part of instruction, and more time in assisting faculty to fill their changing roles.

VI. What will be the nature and role of our professional organizations at the state and national levels?

VII. How will educational technology influence the design and construction of educational facilities?

VIII. How will education be administered and financed in the future?

24. CHRISTA B. MONTGOMERY (Kentucky)

My concerns are those of a public school practitioner: We keep acquiring more equipment and materials, adding more personnel to the program and expanding facilities. Predictors of the future point toward this trend not only continuing but increasing.

I. How do we evaluate to prove that the involvement of technology in education helps children learn better, quicker and retain knowledge longer? What evaluation methods could be utilized by school systems to prove this point locally?

II. What curriculum organizational patterns will evolve so that utilization of newly developed equipment and materials can be implemented and/or better utilized?

III. How will media utilization centers of the future appear? Will they continue to be in classrooms? What kinds of uses of technology will they accommodate?

IV. Can technology and humanization co-exist?

V. What will the curriculum of the future be? What will children need to know to prepare them to live in the society in their future?

VI. What will the curriculum for educating teachers to teach in a highly technologized school include?

25. DICK NIBECK (Washington, D. C.)

I. How do we obtain the most comprehensive (inclusive yet definitive) statement of "what is instructional technology?"

II. How do we assign responsibility for components of the field of IT? Should role definitions be in terms of contemporary staffing now used by educational institutions or should it include new staffing models?

III. Does IT include the traditional roles of an entire school system or institution of higher education?

IV. Are educational media sub sets of IT, and are educational media personnel instructional technologists?

V. What relationships exist between contemporary media roles, such as librarians, AV directors, media directors, TV directors, and those roles suggested by advocates of IT such as instructional developers, managers, systems designers, etc.?

VI. Do we continue existing roles and add something new on top, or are they to be modified through retraining?

VII. What are the future roles of contemporary media professional associations and how might they change to better accommodate the future of instructional technology - including:

AASL	NAME	IFPA	AECT	NAEB
AEDS	NSPI	EFLA	NALLD	etc.

26. GLENN OFFERMANN (Illinois)

I. Will the increasing affect of technology upon learning and education be consciously directed and planned by educational personnel or will it be indirect and haphazard?

A. Is adequate research being done? What research is needed?

B. What can be done to ensure that applications of technology are handled professionally, that trials and tests are truly valuable evaluations, and that benefits from actual experience are disseminated?

C. What strategies can be employed to keep ourselves as educators informed?

D. How can educational interests be kept viable and not succumbed to commercial and entertainment interests?

1. The national organization and its state affiliates would do well to make a special effort to recruit more of their leaders from those members who hold positions of influence in public education. The representation of this group in key decision making positions of the organization is not proportional to their membership; consequently, their contribution is not in keeping with the opportunities made possible by the responsibilities of their work.

2. Study is needed to ascertain effective ways of evaluating and validating media to be included in an instructional program. There is need to provide standards on which to base a comprehensive approach to the problem. The Material's Analysis Instrument developed by Maurice J. Eash for the EPIE Institute is a thoughtful example of progress in this direction. The instrument is used for analyzing the instructional design of materials in order to obtain a clear understanding of the instructional variables that are contained within the materials and the emphasis that they receive. It systematically orders these answers so that decision making is facilitated and materials may be compared with competing products.

3. Study is needed to ascertain the effects or comparative effectiveness of conferences, workshops or institutes especially where they are concerned with developing the participant's ability to subsequently plan and accomplish educational change.

4. There is need to examine the responsibility of the school district in providing for its teachers a continuous and ongoing program of in-service education that will upgrade and maintain the competencies needed to utilize and develop media in education. Teachers need to be involved in identification of and planning for the types of in-service training programs organized to meet their particular needs. Such programs should be related to the actual educational programs faced by the specific teacher group and the school community in which they are teaching.

29. DONALD D. ROGERS (Texas)

Those of us dedicated to the application of technology to improve education are faced with one, quite simple, economic problem. While the application of technology in an educational environment may or may not improve education, it nearly always increases the cost of education. As the number of dollars available to educational institutions diminish and the competition for these dollars increase, the additional expense for additional technology demands greater justification. This justification must take the form of either increased effectiveness or decreased cost of education. However, if funds are not available, increased effectiveness at additional expense will not be an adequate justification. Therefore, it is conceivable that the use of technology in an educational environment may be contingent upon its ability to reduce costs.

In most major school districts approximately eighty-five per cent of the expenses are for salaries. The use of technology to reduce costs in these districts must translate to replacing people with technology. While this may appear reasonable to an administrator, teachers' unions and professional organizations have a different view. While open, direct conflict between advocates of the utilization of technology and teachers' unions have yet to materialize, these conflicts seem to be on the horizon. Failure to make adequate preparation for them could easily lead to the most serious difficulties yet to be faced by the advocates of the increased use of technology in educational environments.

30. WILLIAM ROSS (Vermont)

I. Change of Philosophy
   - A. Defensive to offensive posture
   - B. Supplier to curriculum co-designer
   - C. "More saying" to "more doing"
   - D. Mundane to forward-looking

II. Status of Personnel
   - A. Development of selection criteria
   - B. Determination of performance-based criteria
   - C. Relationship in administration
   - D. Requirements of support personnel
   - E. Opportunities for periodic renewal

C. Development of instructional strategies for use in teacher training

D. Adequate administrative and financial support for teacher training programs

32. KENNETH H. SILBER (Illinois)

If instructional technology is the answer in the future, what is the question?

Educational technology is not only more than hardware and software; it is also more than the systematic design, utilization and management of those resources for learning. As the current Definition of Educational Technology (AVI, Oct., 1972) indicates very clearly, a philosophical base and an institutional context are an integral part of what educational technology is today,

And I would also argue that the relationship between the philosophical base and institutional context of educational technology in the future will be the key question about educational technology in the future. These issues (rather than any technical aspects of our field) will determine the impact of the future on educational technology, and the impact of educational technology on the future.

Therefore, I propose we address ourselves to these questions about the future before we answer anything about educational technology:

(1) What is the view of the future we accept?

Do we view the future as extrapolators, who believe that the future is determined and cannot be affected by man's efforts, that the future will be more of a present; if so, are we positive extrapolators, who see the developments in store for man as generally valuable (like the "professional futurists" Kahn and Weiner), or are we negative extrapolators, who see the inevitable developments are intolerable, and therefore to be stopped at all costs (like revolutionaries)? Or do we view the future as romantics, who believe that change will take place regardless of the actions of individuals and that a new world-view or consciousness is spontaneously coming into existence (like Charles Reich)? Or do we view the future as systemic thinkers, who believe that the future cannot be like the past if man is to survive, that a new world view is coming into existence but it is not spontaneous in evolution or acceptance, and that we must discover new ways to manage (authority, government, control, administer) a highly complex technological, but individual oriented, society (like Robert Theobold and Buckminster Fuller). Or do we have another view of the future?

(2) In this view of the future, what will people be like, or need to be like?

Can people remain as they are today in terms of their intellectual, emotional, and social functioning? Or will they be different? Will they be more free in the use of their intellects, attempting to expand the parts of their minds they use by dealing with non-Western and non-rational (e.g. para-psychology) ideas, or will they become more constrained in the use of their intellects, sticking only to approved modes of thought? Will their feelings become more open to others, and will those feelings be positive ones of love, empathy, concern, etc., or will the feelings become more closed to others, and will those feelings be negative ones of hate, anger, frustration, etc.? Will people begin to function in a more cooperative, helping, world-view way in their interactions with others, or will they become more selfish, competitive, and "[illegible]-view"?

(3) What do people or might people need or want to learn to be those kinds of people?

Can we specify what people will need to know in the future (i.e., is specifying learning goals for other people contrary to our philosophy of the future and of what people will be like)? Will people need process skills or content skills? What new areas of knowledge will society develop that people might want to learn? Who will determine what people learn? Will what people learn be permanent or temporary? Will it be intellectual only, or emotional and physical too?

(4) How will the society and people view learning?

Will learning be apart from life, or life itself? Will it be fun or painful? Will we have to motivate people to learn? Is learning a status determiner? Can people be failures at learning?

5. Public Schools oriented
6. Administrative oriented

B. What role will Instructional Development and Technology play in the College Systems?

C. Who will eventually control Instructional Development on the College level?

III. Professional Organizations

A. What role will all professional organizations play in Instructional Technology and Instructional Development?

B. Will professional organizations join forces to improve education through Instructional Technology?

C. What emphasis will be placed by professional organizations on Instructional Technology?

34. DON C. SMELLIE (Utah)

"Asking in 1973 about the future of Educational Technology is similar to asking in 1903 about the future of the aeroplane."[1] The men and women who tackled questions conceming air-flight in the early nineteen hundreds must have felt similar to those addressing themselves to the theme of the 1973 Okoboji Conference. We are experiencing the results of the 1903 Kitty-Hawk and can only be hopeful that future generations experience the benefits of 1973 Okoboji.

Since I represent an academic department as well as a state which has integrated print and non-print media into a unified philosophy, it is a "concern" of mine that consideration be given to the future continued integration of Library and Instructional Technology. I appreciate Ely's[2] effort to define the field of Instructional Technology and personally accept the relationship of Learning Resources to Instructional Technology.

Some specific concerns for the future are:

A. As integrated state associations are formed, the problem of not having a single integrated national affiliate arises.

B. Practical consideration be given to ways in which the "marriage" of Library and Instructional Technology be further consummated.

C. A widespread acceptance and application by the faculty of educational institutions at all levels concerning the broad definition of Instructional Technology be achieved.

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[1]Koerner, James K. Educational Technology. Does it have a future in the classroom? Saturday Review of Education, May, 1973, pg. 43.

[2]Ely, Donald P. The Field of Educational Technology: A Statement of Definition. AECT Committee on Definition and Terminology. AVI Magazine, October, 1972, pg. 36.

35. ROBERT SPEARS (Louisiana)

Before we can effectively determine the future of instructional technology we need to assess the state of the profession now. The future is being determined today. Developments in instructional technology today will not reach the majority of our schools for at least 10-15 years. As we look to the future in instructional technology we should not only attempt to assess the direction instructional technology is headed in, but also point out areas of needed re-emphasis and redirection. The sub-topics chosen seem to be adequate lead off points for our discussions. I would hope in all our groups that we would, during discussion of our topics, ask ourselves the following:

A. What are we doing that will benefit the majority of school systems and the majority of America's students?

B. Are the results achieved by instructional technology's innovations worth the cost and trouble to implement them in the average school system?

C. As communications specialists how well do we communicate our ideas with other educators? Do we understand what we are saying to each other?

38. SANDRA ULM (Florida)

I. Will educational technologists actually make an impact on the educational system, or will we simply adjust on the surface to keep up with the latest trends while we continue to preserve our present status?

II. Since educational technologists have the tools, the procedure, and the talents to implement major innovations in the educational system, what changes will be evidenced in the future?

III. Are we moving too fast technologically for people to cope with the changes?

IV. The educational technologist is not the only person making decisions about the facilitation of learning through the identification, development, organization and utilization of learning resources. What will be the relationship between the field of educational technology and other fields of education involved in the process?

V. Silberman has asserted that a mechanically-minded approach to educational technology is likely to "compound what is most wrong with American education--its failure to develop sensitive, autonomous thinking, humane individuals." Therefore, there is a concern for the kind of success that we are seeking for educational technology.

39. JAMES TULLY (Texas)

I. What changes, if any, should be made in the curriculum of teacher education concerning educational technology?

II. What changes, if any, should be made in the curriculum concerning the education of educational technologists?

III. Should AECT develop and implement programs (in-service education) for school administrators concerning the values of educational technology?

IV. Should programs be developed and implemented to encourage college professors to utilize, to a greater degree, educational technology?

V. What kind of a role must AECT perform in providing information guiding public reaction to the current trends in educational technology?

VI. Money, money, money - where is it coming from?

VII. What role, if any, should AECT play in the certification of educational technologists in states that have no certification for such personnel?

VIII. Would regional conventions be more beneficial that one national convention?

40. TED W. VAUGHAN (Wyoming)

There has been some discussion around my office about creativity, specifically the process of invention and the affect of so technological a society as ours on people. Central to this concern is the inability of the man-on-the-street, the "average joe" to do anything new or creative in his own lifetime. Joe experiences invention and creativity vicariously, much like a spectator sport.

With rare exception has anyone done anything "new" without soon thereafter reading or hearing that it had already been done by someone else a short time before.

Technology has reached a state of such complexity that the average joe has little change of exploration without substantial specialization and preliminary study. Exploration is pursued by an ever-decreasing proportion of our population: probably less than .05% today. The condition now exists whereby a decision in any field of endeavor will be made to satisfy the demands and conditions set by the technology rather than solve the instrumental problem. Writing of the development of the Star-Gate sequence in Kubrick's 2001: A Space Odyssey, Douglas Trumbull points out, "It's strange how solutions to technical problems become the content of the film."

Confronted with the helplessness and frustration of modern living, what avenues of emotional and mental release are available to the average person today? Unlike William the Conqueror, we no longer find it socially acceptable to wage war with our neighbor to obtain his property. It is economically and technically unfeasible for us to explore space in the same sense our forefathers went West to find a new life. And, it's unlikely that the man-on-the-street will discover a method to tame the oceans and feed the world. Nor will he "stumble" upon a new energy source to power our cities and drive our transportation. Technology has eliminated the tinker. In short, Thomas Edison could not exist today.

VII. That insufficient time and energy is spent in developing effective ways of using media to instruct students within our own field.

VIII. That we will overlook the dilemma of wishful thinking politicians who contend that completely new approaches to education can be legislated without developing sufficient support systems.

IX. That we will not influence the producers of competency-based modules sufficiently to have them mediated, and that the verbalism problem will get worse.

X. That the computer will replace the instructor as the "authority figure" in the schools of tomorrow and the dependency syndrome will be reinforced.

XI. That the need to teach basic skills to increasing numbers of students and librarians will reduce the thrust toward new frontiers in the changing world.

XII. That we will overlook the fact that the nature of change involves "kind as well as degree."

XIII. That we need to expand our endeavors to (a) maintain quality control at all levels, and (b) avoid seeing our field in a static way.

22. WESLEY J. McJULIEN (Louisiana)

The question formulated for this conference is "What is the future of instructional technology?" What are the implications in this question? Are there prior questions? Are there more important questions? Would our early leaders have asked this question? Will we be asking this same question thirty years hence?

As we look toward the future of instructional technology it would appear then that some other basic questions must come to the forefront. If this is the case, clarification of the following questions appears to be of paramount importance:

A. Will technology in the future have an impact on changing the present educational bureaucracy of today?

B. Will there be a need for redefining educational/instructional technology?

C. Will technology solve, in the future, the educational problems and crises of the present?

D. What should be the nature of the instructional technologists in the future?

E. Is there a sufficient data base of knowledge available to adequately deal with the implementation of electronic teaching aids as a means of facilitating learning?

F. What are some notions that can be employed to influence the anti-technology generation?

G. What political, socio-economic and cultural events and trends have on the future of instructional technology?

H. How can the tools of future forecasting be employed to assess the future of instructional technology?

I. Can future forecasting be a significant tool in planning the future of instructional technology?

J. What are some notions concerning the curriculum in the future for training instructional technologists?

The questions raised here hopefully will better prepare those in the field of instructional technology to cope more effectively with change and to broaden our understanding of how the field will prepare itself for the future.

23. JOHN W. MITCHELL (Ohio)

I. What will be the nature of education in the future?

II. What will be the nature of educational technology in the future?

III. What will be the role of educational technology in all phases of education - elementary, secondary, higher, technical, continuing, religious, business, and industry?

IV. What will be the staffing needs for educational media programs?

V. What will be the pattern of preparation of educational media specialists, technicians, aides, and clericals?

II. Will we attempt to utilize technology without initiating necessary facilitating structures--both administrative and instructional--and thereby fail to "humanize" and "individualize" instruction?

A. Will we use machines for transmitting information and somehow "forget" to initiate compensating personal contacts?

B. Will we utilize machines for areas in which they are best suited and continue to pay attention to meeting other objectives with other strategies?

C. Will we be careful to realize that individual self-instruction does not equal individualized instruction?

D. Will we retain flexibility and adaptability in broad-based programs and national curricula so that attention can be paid to individual learning styles?

E. Will the choice of a given technology prescribe or limit goals, content, or methods?

III. Will we prepare people--personnel, learners, the public--for the influx of technology into educational experiences?

A. Will the public be able to make decisions regarding the "public welfare" in the regulation and structure of technology?

B. How can future-oriented tasks become part of the curriculum?

IV. What cooperation, interaction or communication is needed between education and business (media producers)?

A. What problems does technology and change make for publishers or producers--how can understanding and cooperation between educators and commercial personnel be improved?

B. What copyright legislation should be enacted and how will instructional technology be affected?

27. VIRGINIA PETTIROSS (Connecticut)

I. Lack of funding for technology centers

A. Federal funds appear to have mainly dried up

B. States appear to exhibit low priorities for education

C. Private foundation funding appears to favor prestigious educational establishments

II. Media personnel lack ability to command commitment of dollars

III. Lack of status of professionals interested in developing valid instructional programs

IV. When valid instructional programs are developed, there is evidence of fear of implementing new ideas

V. Meaningful in-service training with recognized incentives is lacking

VI. When funding is limited, commitment flows to traditional areas in the educational institutions, leading to stagnation of programs, rather than towards developing new approaches

VII. To change the "audiovisual director" the name change of the national organization is inadequate. The real change must occur through curriculum development, and changes in attitude of principals and superintendents. To encourage change, there should be:

A. A minimum amount of required course work in media

B. Courses in curriculum development and systems approach

C. A requirement that assistant principals have some media background

D. A recognition of varied cognitive learning styles

E. A development of self-instruction, especially at the college and university level

28. U. FRANK RAGO (Pennsylvania)

It would appear reasonable to relate the future of instructional technology to the growth of our educational institutions. It is my opinion that the public school system, in particular the local school district, holds the decisive role in releasing the human potential essential for planned educational change. The concerns that follow are relevant to this position.

III. Process of Learning

A. Nature of learning

B. Need for continuous learning

C. Optimal utilization of technology in learning

D. Development of individualized instruction

E. Requirements of learning for future

IV. Issue of Morality

A. Content of learning

B. Processes of learning

C. Selection of learners

D. Need of "elite"

31. ARTHUR L. SAVAGE, JR. (Michigan)

I. The overriding need

A. Revised, up-dated concept of instructional technology

1. Report of the Commission on Instructional Technology

2. NSMI definition of instructional development

B. Shift in emphasis from conventional audiovisual instruction to instructional development

1. Re-evaluation of the concept that "media solve all instructional problems"

II. Development of Instructional Development specialists

A. General background of qualifications

1. Competent educators

2. Learning theorists - educational psychologists

3. Curriculum development specialists

B. Development of competency-based training programs

1. Instructional developers who function as:

a. Change agents

b. Innovators

C. Development of training programs for instructional developers

1. Instructional modules

2. Simulation and games

3. Guided field experiences

D. Increase in number of training programs available

E. Recruitment of personnel for training programs from:

1. Professional teachers

2. Material specialists

3. Learning theorists

4. Administrators

F. Increased funding for training programs for instructional developers

III. Training and conditioning of teachers to use instructional development

A. Pre-service and in-service training

B. Staff member skilled in instructional development

(5) What institutions will society create to facilitate this learning?

Are any special institutions needed to facilitate learning? If so, what are their characteristics? Are they controlling or facilitative? Is there just one or are there many alternative institutions? How removed from everyday-life is/are the learning institution(s)? Can the whole community and all its people/facilities, materials be the institution that facilitates learning? Who controls the institution(s)? Is/are the institution(s) experimental, risk-taking, self-renewing? How will learners gain access to resources for learning? Where will "people resources (teachers?, administrators?, developers?, experts?) come from?

(6) What will be the specific resources used for facilitating learning?

Will there be special "learning resources"? What new resources may be developed in the future to aid some learning--pills, lasers, teleportation, ESP, etc? What non-special, or everyday, resources of the community can be used for learning? What will be the nature of specially created "learning resources" and how will they relate to everyday resources?

(7) What is the role of educational technology in facilitating learning as defined in 1-6 above?

Are the functions and components of the field of educational technology needed in this future we foresee? If so, will they be the same or different? If different, how? Will the profession of educational technology (i.e., people paid to operate in the field) be needed in the future we foresee? If so, will it be the same or different? If different, how?

(8) What must the field of educational technology do today to help arrive at that future society and people, that future view of learning and its institutions and resources, and that future view of the role of educational technology?

Are we doing anything now? Are we headed in that direction based on what we are now doing? If not, what are we doing wrong or not doing? What should we be doing? How can we do it? Who is the "we" that must do it?

It is only, I believe, by answering all these questions, and by answering them in the sequence they are proposed, that we can come to an honest and useful appraisal of the possible future of educational technology.

NOTE: My suggested answers to these questions are contained in an article entitled "The Learning System" in AVI, Sept., 1972.

33. CAROLYN R. SKIDMORE (West Virginia)

I. Public Schools

A. What part will instructional technology play in the public schools?

B. Of what importance will Instructional Development be within the public school system?

C. Will there be a joining of Library, Audiovisual and Development Forces?

D. Will Media Personnel or Instructional Technologists continue to be service people?

E. What role will the State Department of Education play in Instructional Technology?

F. Will Instructional Technologists be involved in instruction and curriculum?

G. What type training will be needed to direct Media Programs?

H. How will Media Programs be financed? (Federal, Local, etc.)

I. Who will control the Development of Instruction and Curriculum?

J. What importance is Instructional Technology to Career or Vocational Education Programs?

K. To what extent will Instructional Technology be accountable for a person's education?

II. Higher Education

A. What type training will be provided for Instructional Technologists?

1. Service oriented
2. Instructional development oriented
3. Technical oriented
4. Higher Education oriented

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36. WILLIAM R. TERRELL (Michigan)

I. Media and instructional technology suffer from quackery. The obvious concern for the "Future of Instructional Technology" is the growing host of "tried it once and it didn't work" educators.

Certification and accreditation efforts are being mounted. How do we make certification and accreditation effective?

II. The major thrust of instructional developers is the training of educators to engage in instructional design. Should this effort succeed and involve vast numbers of educators in instructional design, very practical problems shall arise concerning the "Future of Instructional Technology." Problems that ought to be addressed now if we are to be prepared for the future.

Example - Instructional design increases the likelihood of the desirability of local production of instructional materials as commercially produced materials would generally not meet the specific needs of instructional designers. Instructional designers, though, might wish to use cuttings of commercial products. The role of the commercial producer must be clearly defined or altered. Arrangements and procedures for fair use of commercial products to meet specific local needs must be worked out.

III. Technology in general is under fire for producing many of the woes of modern society. Persons concerned about the "Future of Instructional Technology" ought to consider the potential pollutants associated with educational technology.

Example - Do certain kinds of media and processes have psychological impact on certain individuals? It would not be acceptable to employ educational technology to maximize the individual's achievement and at the same time induce such high anxiety levels that we produce a race of ulcer-suffering neurotics.

37. MARY TRAVILLIAN (Iowa)

I. Availability/Accessibility

A. How can services/materials/technologies available anywhere... be made available everywhere?

B. How can the cooperative, inter-, intra- agency information systems that are and will be possible with the new technologies be set up... NOW?

C. Information of all kinds should be readily available to those who need it... in whatever form they need it in... quickly and inexpensively. How can this concept be reconciled with the business ethic? What about the spiriling costs of information and access to it?

II. Management/Control

A. How can duplication of effort (mental, financial, physical) be avoided... in research, in production, in auxiliary services, in equipment, in systems design??

B. Who is to decide what is and what is not to be utilized in instructional systems? What about censorship? What about copyright?

C. How can big brother aspects of new technologies be avoided? Too much control ... forced information... required programming... two-way communication not always being optional.

III. Quality/Costs/Accountability

A. Who establishes standards of performance for the new "instructional technologies" and the new "instructional technologists"?

B. What are the criteria that will insure good programs, materials, systems that work, equipment that functions, personnel that knows what they are doing?

C. Who foots the bill? Local? State? Federal? Business and Industry?

D. How do we insure that instructional technology will do for man instead of to him?

Schools are conditioning children to react uniformly to the machine. The many variations of individualized instruction form a "set" toward technology that goes far beyond the medium's content. Already there is a growing concern over the response of children to television advertising as it exploits the child's trust in the machine.

Krishnamurti, in his book, The First and Last Freedom, "One of the fundamental causes of the disintegration of society is copying, which is the worship of authority."

A. In Krishnamurti's terminology, to what extent has technology assumed the role of authority?

B. What is discovery to a child whose only opportunity in life will be to re-invent the wheel?

C. Has technology enhanced our lives; or, in the final analysis, has it effectively removed life's most motivating force?

41. LOIS L. WHITE (Washington)

I. Assessing the Present

A. Can we reach a consensus regarding our role(s) in the educational process?

B. What "image" are we now pushing toward or trying to project?

C. Do we need to make an arbitrary agreement on our role and function in the educational process?

D. What studies have been made, if any, to assess the impact of instructional technology on education today? (For example, has anyone documented the historical events which led to such programs as ESEA Title II or NDEA III and their impact upon the field?)

E. Can we substantiate our accountability in terms of the learner?

F. Can we identify the road blocks which have often eliminated the instructional technologist from the decision-making process?

II. Predicting the Future

A. Can we predict what we, ourselves, will likely value a decade or two from now?

B. Is it reasonable to assume we can predict the needs for instructional technology in light of what we know about our present political, social and educational institutions?

C. What channels are we using to get feedback for predicting future needs?

D. Are we able to project how the decisions we make today will affect the values we are likely to hold at some point in the future?

E. What will be the implications or consequences of those values we predict for the future?

F. Does technology precede values or do values precede technology?

G. To what degree does our comprehension of what is technologically possible mold our values now and in the future, and how does this influence the decision-making process?

III. Planning for the Future

A. What strategies can we employ to increase the visibility of instructional technology today?

B. What can we do to insure that the instructional technologists' point of view will be favored in planning for the future?

C. Is it reasonable to think we can reach a consensus of what our future needs (values) will be?

D. How do we keep these plans in proper perspective with other values held by our society?

E. What can we do today to increase the probability that our goals for the future will be implemented or met?

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F. What will be the criteria for measuring when we have attained our projected goals?

G. Can we develop a vocabulary which will be useful in discussing future technologies and which will enhance communication with decision-makers?

H. If we agree that those who control the flow of investments control the direction of technology, what can we do to influence the decision-makers so that they "value" the contributions that instructional technology can make within the educational sphere?

42. RICHARD HUBBARD (New York)

The Las Vegas AECT Convention highlighted spectacular and exciting reports on the fifty years of progress in our field. Terminology played an important part as Ed Comm experts defined, gained, and maintained identity for a developing concept--visual aids, audiovisual instruction, educational communications, instructional technology, etc. However, my main concern is that we communicate among ourselves (or do we?) and not to other important groups; groups who make the important educational decisions! We should address ourselves to the following questions if there is to be a meaningful and effective role in the future of instructional technology.

1. A great deal of emphasis is placed on the training of teachers in I. T. (and rightly so) but what about educating other educators in the I. T. area?
2. If media information isn't mandated in teacher and administration programs, how is the task accomplished?
3. How does one develop successful in-service programs (for teachers and administrators) when present time and money restrictions, low priority for media problems, and the absence "old time dedication" plaque further Ed Comm developments?
4. What kind of effect and input can our professional association(s) have in teacher negotiations which practically include items affecting I. T. ?
5. The concept of instructional development is the most important element of a comprehensive I. T. program. How can it be defined and the resulting information be disseminated (using our own communications know how) to the so-called "change agents"--superintendents, principals, supervisors, and boards of education?
6. What kinds of cooperative ventures can be encouraged or mandated between state education departments and higher education institutions in respect to accrediting media training programs, developing competencies, establishing standards and writing certification requirements?
7. How do we get I. T. included at a higher level of educational priorities?
8. With the curriculum planning implicit in the I. T. process, how can we be assured of adequate participation in this area?
9. I. T. usually means more resources (money) to bring an under-developed situation to a "floor level". In an era of the "educational crunch" how can these resources be obtained and maintained?
10. What if society doesn't demand I. T. developments in the near future?
11. How can the future development of i. T. theory and the carrying out of relevant research be assured and managed?
12. What further and more effective methods (leading rather than reacting) can be applied to the study and reporting of I. T. trends (cable TV, resource centers, distribution systems, copyright, individualizing instruction, computers, and instruction, media and differing types of learners, etc.) while this information will be of the most help to the majority of the people who need it the most?

43. MARION NEIL (Florida)

I. Concerning Education Programs Specifically

A. How do we get the education teams (Boards of Trustees, administration, faculty, students) to understand the implications of today's educational needs and the part instructional technology potentially can play?

B. How do we go about doing the job of training administrators and faculty to make use of the technology? (Teacher education in colleges; in-service on the job)

C. How do we train planners to do non-rigid planning?

D. Faculty are not trained to do good evaluation; how do we implement pragmatic programs fast?

E. With a team approach to planning, where does copyright fit in?

F. Is education necessarily related to formalized educational structure as we now know it?

G. Where does regionalization and consortia fit in planning for the future?

II. Concerning the Place of Education in Society

A. How do we involve the general public, government officials, and business in understanding educational needs? educational costs?

B. What role should education play in meeting needs, in motivating needs of society as a whole?

C. What part does general education play in a technological society?

D. How can mass media implement public education?

III. Concerning Individual Human Problems

A. What part does education play in preparing students of all ages to fit into the technological society?

B. How do we make extensive use of instructional technology and keep a good balance in not de-humanizing learners?

C. How do we protect the rights of individuals? (Ethical concerns)

44. PENNY RICHARDSON (New York)

"The future of instructional technology," per se, does not especially concern me. But the future of education, and the responsible role instructional technology might play, does. I say "might" because so far many of our claims have far exceeded our achievements or our evidence that these claims are founded.

It seems to me that to make a real contribution to education in the future, people who call themselves instructional technologists or media specialists must drop their stance of technological advocacy and assume one of technology criticism. We must take responsibility for asking and reporting "what's worth doing?" rather than indulging ourselves in technology oversell. We must monitor the products and processes that instructional technology advocates--everything from "the systems approach" to prespecification of instructional objectives" to "modularized scheduling"--and ask for empirical as well as logical proof that these products and processes live up to the claims made for them. We must also take the responsibility of looking for unintended consequences, both positive and negative, of our actions.

Further, I believe we must take the responsibility of considering the moral and ethical implications of the changes we advocate. Instructional technologists are, by virtue of the role they play in education, change agents, and must be as concerned with the ends of those changes as the means.

45. GARY SARETSKY (Indiana)

There are two additional concerns that I have that should be faced by the field. In its insistence that there is a technology of instruction, I. T. has suggested that there are more appropriate, or more optimum strategies a professional or group of professionals might pursue. The extension of these notions have led to state mandated programs of competency-based teacher education programs. The criteria used in these programs can be used not only to prescribe "proper" educational practice, but also to define "malpractice." I. T. has provided an elaborate array or recording, observational, and evaluative methodologies. Through these methodologies, and with these criteria I. T. has set the stage for educational malpractice suits. While such suits might lead to much needed reform, they might just as well "freeze the level of practice" at its primitive level.

Secondly, with its insistance upon prespecified behavioral objectives which state ..."the learner shall..." I. T. may have made specific the previously implied contract that schools entered into with parents who gave their children and tax monies to the schools. Since the evaluation data will often demonstrate that "...the learner didn't..." I. T. may have set the stage for suits claiming breach of implied contract, breach of contract and/or fraud or misrepresentation.

46. G. A. TWIDDY (South Carolina)

I. How effective will Instructional Technologists be in determining the future of education?

A. As new management patterns emerge will those involved with Instructional Technology be in positions to effectively initiate changes which will improve learning?

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B. As Instructional Technologists "fight" among themselves will they lose their effectiveness to change the educational system?

C. Do Instructional Technologists know what changes they desire in Education?

II. How can the Instructional Technologist play a major role in determining the future structure of education?

III. Who will determine the future role of Instructional Technology?

IV. Will the future educational structure permit new Technology to succeed?

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